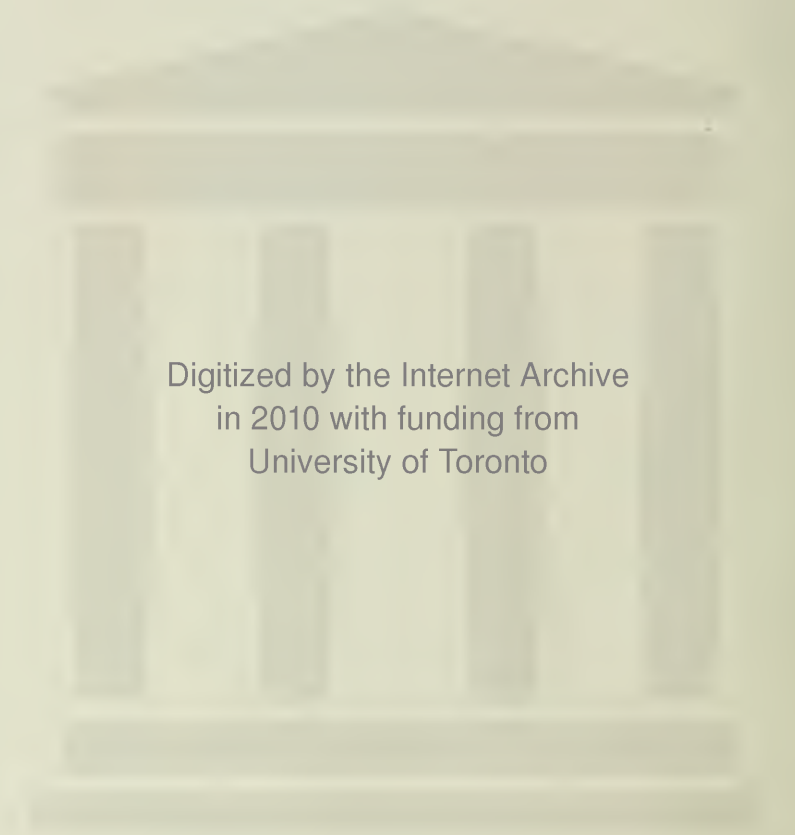
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OF

MEDICAL SCIENCE.

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THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

MARCH 1, 1893.

PART I.

ORIGINAL COMMUNICATIONS.

ART. VIII.—*On the Operative Treatment of Trifacial Neuralgia.*[a] By WILLIAM THORNLEY STOKER, Surgeon to the Richmond Hospital; Vice-President of the Royal College of Surgeons in Ireland.

THE suffering produced by some forms of trifacial neuralgia are so great, the malady is so common, and generally so intractable, that any contribution to its literature will be welcome alike to physicians and surgeons. It is one of those complaints which, for many reasons besides its therapeusis, is common ground to both branches of our profession. Therefore, although the points I propose to speak of are purely surgical, they will, in view of the frequent failure of medical treatment in neuralgia, recommend themselves to physicians no less than to surgeons.

It is as an outcome of recent advances in the special surgery of the brain, as well as in modern methods of operation, that increased attention has been called for the last year or two to the operative treatment of neuralgia of the fifth nerve in cases where other means have failed, and where life or comfort is threatened by intense suffering. The able papers of Professor Horsley in November, 1891, and of Professor William Rose in the beginning of 1892, are the most remarkable writings on this subject in

[a] Read before the Section of Surgery of the Royal Academy of Medicine in Ireland, on Friday, January 20, 1893. [For the discussion on this paper, see No. 254, p. 161.]

England, and are what might have been expected from so distinguished and original an investigator as the former and so bold and skilful a surgeon as the latter. But operations on nerves for the relief of pain, although called into added notice of late, are by no means new procedures. Of the four methods of treatment to which I shall have to allude—neurotomy, neurectomy, stretching, and avulsion—neurotomy, or section of a nerve, was suggested as far back as the time of Galen, and practised 150 years ago; neurectomy, or removal of a part of a nerve, was performed by Abernethy in 1793; stretching was introduced in 1860; and avulsion is the only method that can claim a very recent birth, having been first practised by Professor Thiersch in 1889.

1. As regards the operation of neurotomy, or mere division of a nerve, it may be briefly dismissed. It usually gives only temporary relief, as the cut ends sooner or later unite and pain is re-established. This observation applies to cases in which, neurectomy being performed, only a short piece, amounting, perhaps, to half an inch, of the nerve is excised; for, even then, the ends have been known to become united, and sensory function restored. I can myself record such an incident in more than one case.

2. Stretching is also a proceeding of limited use, being of suitable application, as a rule, only in the cases of mixed nerves. In neuralgia affecting spinal nerves, such as the sciatic, where a motor as well as a sensory function forbids division of the trunk, this treatment, although usually only temporary in the benefit it confers, is defensible, not only for the relief it gives for a longer or shorter time, but for the stronger reason that it is the only final surgical method permissible. In the cases of purely sensory nerves, such as most of the divisions of the fifth, another rule seems to apply. In spite of the advocacy of stretching—for instance, by Mr. Walsham in December, 1891 (*Brit. Med. Jour.*)—I cannot think that a good case is made for the operation, and it seems that the very instance he records in which he has within ten or twelve years stretched the inferior dental nerve five or six times in the same patient for recurrent neuralgia of that trunk, is in itself a strong argument against his practice, and that a neurectomy would have been more effectual and not open to any grave objection.

That stretching a nerve may give relief of greater or less duration is not denied, but in neuralgia of the sensory divisions of the fifth I am disposed to advocate a more radical proceeding, and, if

stretching be employed, to use it in conjunction with neurectomy as a means of reaching the proximal part of the nerve trunk between the seat of operation and the brain. Here it may become an additional means of avoiding a return of pain, and at all events gives a patient a chance of being spared the formidable proceeding of opening the skull to remove the Gasserian ganglion. In a case I shall presently mention in which I removed the infra-orbital nerve by open operation, it may be assumed that the stretching consequent on avulsion, which was a part of my procedure, has had a good effect, for no pain has returned in the proximal part of the trunk which remains attached to the brain.

3. The operation of avulsion has been variously performed. In its latest method, as developed by Prof. Thiersch, it is done by exposing the nerve trunk at some convenient point, isolating it, seizing it with a forceps, dividing it at the peripheral side of its exposed point, and by twisting and traction removing as much of its proximal part as is possible. It will be easily conceived that this operation is much superior to neurotomy, and combines the advantages of a limited neurectomy with those of stretching. It is open to the objection that it is blindfold and uncertain in its extent, and therefore unscientific. It seems much more reasonable to expose the nerve trunk and see exactly what we are doing. Avulsion should, I think, be reserved for those cases where complete exposure is not possible, or where for some other reason it is not deemed expedient. In connection with this treatment we must not overlook the difference between avulsion, which, owing to the connections of a nerve, is likely to tear it across at some point removed from its cerebral attachment, and a traction at such a place or exercised in such a manner that it is capable of tearing a nerve from its cerebral origin. While the former is a justified proceeding, it is not to be forgotten that the latter is on trial, and that in the case published by Prof. Horsley, where he exposed the Gasserian ganglion and avulsed the trunk of the nerve from its pontal origin, the patient died in a few hours from shock.

4. The operation of neurectomy seems, on the whole, that which alone, or combined with avulsion, is most exact, most scientific, and most likely to give good results. I do not propose to enter into the general consideration of neurectomies of the 5th nerve, but to deal with those of which I have had practical experience in the living subject—namely, the gustatory and the second division. Suffice it, as regards the rest, to remark that numerous operations

have been proposed and practised on all the divisions of the trifacial nerve, that they have been so far established as meritorious and recognised surgical procedures, that in the case of each nerve the question is not whether, due cause existing, operation is justifiable, but rather which mode of performance best suits the particular case.

As for the final and capital question, whether operations on the trunks outside the skull being inexpedient or, having failed, it is right to open the cranium and remove the Gasserian ganglion, judgment must for the present be suspended. The brilliant work done in this direction seems to promise a future for this bold proceeding, but it is not my province at present to do more than refer to it, and to say two things—first, that the method devised and practised by Rose of approaching the ganglion through the pterygoid fossa commends itself to me much more strongly than Horsley's operation of opening the middle fossa through the temporal region, and gaining access by raising the temporosphenoidal lobe; and second, that either of these operations would have no chance of success except in the hands of a surgeon of accomplished method and with an exact practical acquaintance with the anatomy of the parts. I am aware that I am using a dangerous argument when I say that either of these operations could not be undertaken by surgeons of ordinary training and expertness, and I am slow to state it, but their difficulty is so very great that I think they are practically out of reach of many able and skilful men.

3rd Division.—Concerning the 3rd division of the 5th, I have to say that I have frequently divided or removed its gustatory branch on one or both sides, usually to relieve the pain of cancer of the tongue, and once for neuralgia. Various means of reaching the gustatory nerve have been proposed, either from the mouth or from the outside. Those operations which approach the nerve from the outside are—the retro-maxillary and the transmaxillary, with their various modifications. These operations are much more formidable than that through the mouth, and although they are advocated by both Rose and Horsley to the exclusion of the intrabuccal method, I agree with Mr. Walsham, who pleads strongly in favour of the latter. The objection to the operation in the mouth, on the ground of the liability of the wound to septic infection, is more theoretical than practical. I have done the operation through the mouth often, and have never seen trouble of this

ACTUAL SIZE.

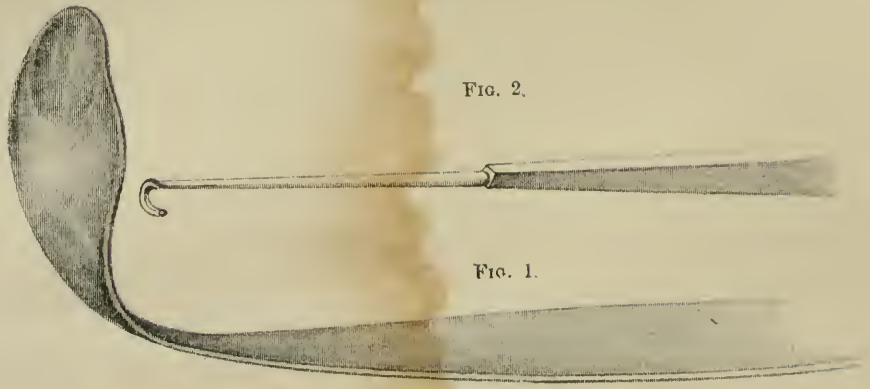


Fig. 2.

Fig. 1.

kind, and we all know how rapidly and safely the most formidable mouth-wounds heal. There are cases where the more free access afforded by the retro- or the transmaxillary operation is demanded, but they are not common. Also there are cases of advanced cancer of the tongue, where it would be difficult or impossible to find the gustatory nerve through the mouth, and where, if operation on it were demanded, it had better be done from without. Supposing such a course to be necessary, the transmaxillary operation of trephining the ramus of the jaw, as recommended by Velpeau and modified by and practised by Rose and Horsley, is, I think, the best. It permits removal of considerable portions of both the inferior dental and gustatory nerves. For all ordinary purposes, however, operation through the mouth, which is a much more simple proceeding, suffices, and the particular operation which best exposes the inferior dental and gustatory nerves is that of Paravicini. It is performed by gagging the mouth wide open, retracting the cheek, incising the mucous membrane and periosteum for about an inch parallel to and a line or two behind the anterior edge of the ramus of the jaw, the incision extending down behind and below the level of the last molar tooth. The soft parts are then stripped off the jaw or pushed backwards with a director so as to expose the dental forward. Walsham, who advocates this operation strongly, advises that the periosteum should not, as in the original proceeding, be removed from the jaw, and my own experience leads me to coincide with him. In the middle of this incision the inferior dental nerve can be found, and in the lower part of it the gustatory, and one or both can be lifted with a blunt hook, stretched, and a portion of its trunk removed. The operation for division of the gustatory, by a short incision behind and below the last molar, without exposing the nerve to view, as practised by Hilton, I have not done of late years. It is blindfold, the nerve may be missed, I have seen troublesome bleeding from division of an arterial twig, and the nerve will probably rapidly reunite. It is better to expose the nerve by the method of Paravicini and remove a portion of it. Several advantages attend this more thorough exposure besides the certainty it offers of not missing the nerve; it permits neurectomy instead of mere division, it exposes both nerves, it allows of stretching being added, and it is free from the risk of hæmorrhage, as the nerve to be divided can be separated from any arterial connection.

2nd Division.—With regard to the 2nd division of the 5th nerve, the operation of resecting it on the cerebral side of Meckel's ganglion is one which has lately come into prominent notice. It is indicated in those intense cases of facial tic which engage the entire distribution of this nerve, and where experience shows that other treatment or any operation on the distal side of the spheno-palatine branches yields no good result, or only a temporary one. Clinical and operative experience have of late pointed very clearly to the inutility of operations other than those performed on the nerve at its exit through the foramen rotundum and on the proximal side of the branches to Meckel's ganglion.

Three operations have been proposed in order to expose this 2nd division at the base of the skull in the pterygo-maxillary fossa:—

1. The orbital;
2. The antral; and
3. Pterygo-maxillary.

The last of these—the pterygo-maxillary—is a very formidable and long proceeding, which seems to me to have nothing to recommend it. It is claimed for it that it produces a cicatrix at the side of the face where it is not disfiguring, and that it avoids the danger of septic infection consequent on the engagement of the antral cavity in either of the other operations. In answer to this I say that the orbital method which I have practised does not produce a disfiguring cicatrix, and that the danger of infecting the antrum, if the operation be properly done, is too remote to be considered as weighing against a measure of much greater magnitude, and which involves the probable ligature of the internal maxillary artery.

The antral operation has nothing that I can see to recommend it as compared with the orbital; it is more severe, more disfiguring, and has no compensatory advantage. The orbital operation of Wagner, as practised by Horsley, is the one I have followed. It is easily done provided no mistake is made, it affords sufficient access to the pterygo-maxillary fossa, and it leaves no mark if skilfully performed. It has been done in Dublin by Mr. Brooks as well as by me, and I think he can bear out all that is claimed for it.

The operation is done as follows:—

(*a*) The eyelids are stitched together by a point of fine suture inserted $\frac{1}{4}$ in. from their ciliary margins. This serves the double

purpose of excluding irritating lotions from the eye, and of fixing the parts.

(*b*) The position of the infra-orbital foramen is then found; it lies in the course of a line drawn from the supra-orbital foramen to the interval between the upper bicuspids, a little inside the mid-orbital line.

(*c*) A curved incision is carried along the lower edge of the orbit and parallel to it; it should divide all tissues down to and including the periosteum. A vertical incision is made downwards from this for $\frac{1}{2}$ to $\frac{3}{4}$ inch corresponding to the position of the foramen. The tissues having been dissected aside, the foramen is readily felt with a probe, and the nerve and artery found at their exit.

(*d*) The nerve should then be separated from the artery, seized with a clip-forceps close to the foramen, and divided on the distal side of the forceps. The artery, if necessary, may be tied; I did not find it necessary to ligature it.

(*e*) The periosteum of the floor of the orbit is next raised with a flat director, and as it is very thin, care must be taken not to tear it. Should it be torn, prolapse of the orbital fat into the wound takes place, and complicates the operation.

(*f*) The contents of the orbit are then raised from the floor by an assistant, using a retractor I have had made for the purpose, and which is depicted in the accompanying plate (Fig. 1).

(*g*) The upper boundary of the infra-orbital foramen is then removed with a fine bone-forceps, taking care to make the opening as small as possible, as if too wide the tissues of the lid may sink into it and produce disfigurement. The upper wall of the canal is then removed, either with a fine forceps or with a small director. This wall is so thin as to offer no resistance, and usually only covers the anterior half of the canal, which in the back part of the orbit is a mere groove.

(*h*) The nerve is then lifted from the canal by the attached forceps, and by working along it with an instrument such as that shown in the plate (Fig. 2), can be freed and exposed as far back as the pterygo-maxillary fossa without much trouble. If there be any oozing it can be checked by packing the cavity for a minute or two with pieces of hot sponge.

(*i*) The nerve may then either be divided at the foramen rotundum by fine curved scissors, or seized with a forceps as far back in the fossa as possible and avulsed from its basic attachment by

a process of pulling and twisting. I removed it by the method of avulsion, and I think it best because it affords a hope of relief in case the seat of the disease is at the point of exit from the skull or behind it. It is more than probable that many neuralgias have their origin in a narrowed foramen or in duramatral changes of other kinds.

If the antrum has been opened it should be filled with powdered boracic acid. In the case I operated on I dusted the wounded surfaces thoroughly with boracic acid and iodoform, removed the suture in the lids, closed the wound by catgut sutures, and bandaged the eye with suitable gauze and cotton dressings.

With regard to the cases in which I have divided or resected the gustatory nerve in cancer of the tongue, I need make no remark beyond what I have said in stating my opinion on the general question. The one instance in which I have performed this operation for neuralgia is an incident of the following case:—

Case.—Miss E. P. was brought to me by her brother in August, 1891. She was sixty-eight years of age, extremely spare, attenuated by suffering, and of marked pallor. Her neuralgic trouble dated back to about thirty years previously, when she was seized by a severe pain in her left shoulder and arm, which resulted in some impairment of sensation in her fingers which has lasted ever since. She came of a gouty family, and her fingers and toes were much deformed by gouty deposits. She had suffered from neuralgia of the right trifacial nerve for twenty-five years, of the attacks of which I got the following history:—They occur at all times of the year, and during all kinds of weather. The pain comes on gradually, increases in severity, and lasts for uncertain periods, varying from five or six weeks to as many months. The remissions are seldom complete, and much less so latterly. The second and third divisions of the nerve have been affected, sometimes separately, at other times together. About ten years ago the tongue first became affected, but the pain in it did not become severe until about two years before she came under my observation. She had been treated by numerous physicians, including Brown-Séquard, had taken every conceivable drug, and been sent to all sorts of health-resorts, but without receiving any permanent benefit. I need not describe the attacks of pain, they were of the most extreme character, belonged to the dreadful form of neuralgia named by Trousseau "tic épileptiforme," and were, as is usual in this disease, attended by spasms of the muscles on the corresponding side of the face, sometimes extending to the neck and shoulder. Her state of suffering was indescribable, and at the time I saw her she was dying from the joint effects of pain and inanition, being unable to swallow owing to the tongue-pain.

She had been sustained for some time by nutritive enemata, and had taxed the trained resources of Dr. Jacob of Maryborough, who had seen her frequently in consultation, to the last degree.

At the time she came to me in August the only seat of pain was the tongue, and as her condition was so urgent as to demand immediate treatment, with the approval and assistance of Dr. Jacob I exposed her right gustatory nerve by Paravacini's method on September 2nd, 1891, and removed about half an inch of it. In order to allay the epileptiform habit, she was then given ʒi. of bromide of potassium and ʒss. of tr. of digitalis three times a day. She got immediate relief. Some twinges of pain which remained in the tongue and lower lip gradually disappeared, and in a couple of weeks she went home in restored health and free from pain.

In March, 1892, six months afterwards, the disease recurred in the entire distribution of the superior maxillary nerve, and as it refused to yield to medical treatment, and was rapidly destroying her, it was resolved, in consultation with Dr. Jacob, to remove the affected nerve by the operation I have described. She was so reduced by April 3rd, the day of the operation, that she could not be brought to town, so, assisted by Drs. David and William Jacob, I removed it at her own home in the country.

The dressings were removed by Dr. Jacob on the third day, and the wound was found to have completely healed. A few twinges of pain, but of no particular moment, were felt for some days after the operation, but they gradually disappeared, and from April 3rd up to December—that is to say for eight months—the lady remained quite free from pain. Such an interval of peace she had not known for thirty years; she improved in health, increased over one stone in weight, and was, when I saw her last, in excellent condition, without any deformity from the operation, and seemed to have taken a new lease of life.

The nerve removed was examined by Professor Scott, who has supplied the following report:—The general nerve bundles in the specimen are apparently perfectly normal. The blood vessels are also normal, and have no evidence of endarteritis. In some very small nerve bundles lying in the interfascicular connective tissue, and which contain only about a dozen nerve fibrils, some of the fibres have lost their myeline sheath. In one case the whole little bundle is affected; in another all but three or four fibres, which seem normal. This loss must be due to some commencing degenerative change in these small nerves. As far as I could make out, the axis cylinders are not much affected in shape as yet. I could not see the "oyster-shell" appearance described by Schweinitz, nor any evidence of an acute neuritis.

In the latter part of December, 1892, the neuralgia in its most aggravated form made its reappearance in the distribution of the

3rd division of the 5th, on the right side, including the tongue. This did not, of course, impair the prestige of the operation on the 2nd division of the nerve, but it showed the possibility of re-establishment of the function of a nerve when only a short section of it has been removed, for I took over half an inch of the lingual away by the first operation. The subsequent diminution of the degree and area of anæsthesia has been noticed in several cases of division of the 5th nerve. It is interesting in connection with the researches of Dr. Brooks on the subject, and his observations of the extensive anastomoses which exist between nerves. It is, of course, doubtful whether the return of pain in the tongue in this instance was due to union of the divided trunk or to re-establishment of the function of its periphery from the development of anastomoses.

The question of an operation on the trunk of the 3rd division of the 5th above the origin of the gustatory has since been entertained, but for reasons which I need not relate has not been decided on. The lady has now (February, 1893) recovered the late attack of neuralgia of the 3rd division, and is in good health.

CONCLUSIONS.

1. That in cases of trifacial neuralgia demanding operative treatment neurotomy is not usually a satisfactory or efficient operation.

2. That in purely sensory nerves stretching is at best but a temporary expedient, and either should not be undertaken, or having once been performed and followed by a return of pain, should not be repeated.

3. That the reasonable treatment in trifacial neuralgia of an extreme character is neurectomy, and that while the operation on divisions of the 5th nerve external to the cranial cavity may be regarded as an established procedure, the ultimate operation of removing the Gasserian ganglion must still be considered as on its trial.

4. That avulsion should only be practised as a part of an open operation, and that, as originally proposed by Professor Thiersch, it should be regarded as a blindfold and unscientific proceeding, to be undertaken only when an open operation is for sufficient reasons impossible or inexpedient.

ART. IX.—*Movable Kidney.*[a] By KENDAL FRANKS, M.D., Univ. Dubl.; Fellow and Member of Council, Royal College of Surgeons, Ireland; Ex-Sch., T.C.D.; Member of Council, Royal Academy of Medicine, Ireland; Surgeon to Adelaide Hospital.

FLOATING kidney is so seldom seen, either in the dissecting room or on an operating table, that I have frequently met with men who doubted its existence, and who seemed inclined to look upon it as one of the refuges for difficult diagnosis. I therefore think it may not be an unnecessary trespass on your time to lay the following case before you, and to offer some observations upon the subject of Movable Kidney in general:—

CASE.—Mrs. C., a postmistress, aged thirty-two, was sent up to me from the country on the 27th of September, 1892, with a request from the doctor, under whose care she had been, that I would do what I could for her. She had been married for thirteen years and had ten children, the youngest of whom was born last February. She dated her troubles from an attack of influenza in December, 1891, whilst she was *enceinte*. After she recovered from the influenza she suffered continuously from abdominal pains and attacks of sickness. Her confinement in February was normal; she got well rapidly and suffered from no after troubles whatever. The abdominal pains and sickness, which she had had since December, were unaffected by her delivery. She came up to Dublin for rest and change in April, and consulted Dr. Little. At first he prescribed salicylate of bismuth and put her on a milk diet, and subsequently made her wear a binder round the body with a broad abdominal pad. This gave her great relief, but gradually the effect wore off—I presume as the binder got slack.

When I saw her she complained of a constant dragging pain in the abdomen, which varied much in intensity, but was unaffected by the menstrual periods. When an acute attack came on, which very frequently occurred, the pain gradually got worse until it became agonising. This was followed always by sickness of the stomach, vomiting lasting for some time. These attacks were uninfluenced by food. It made no difference whether the stomach were empty or full, except that the retching was less distressing, if she had anything in the stomach to bring up. No special kind of food or change of diet had any effect upon these paroxysmal attacks. When the pain came on she used to feel a lump in her right side. It seemed to her as if something contracted and formed a lump or lumps. These disappeared as soon as the pain stopped. I examined her lying down on a couch, and at once detected "the lump."

[a] Read before the Section of Pathology in the Royal Academy of Medicine in Ireland, on Friday, January 13, 1893.

It lay in the right side below the line joining the umbilicus to the right anterior superior spine of the ilium. It could easily be pushed upwards until it disappeared beneath the edge of the liver, where it appeared to occupy the normal position of the right kidney. It was smooth and elastic to the touch, and I thought I could feel the hilum. I had no doubt in my mind that I had to do with a case of movable kidney. She had no urinary trouble, and the urine, when examined, was practically normal. When compressed between the fingers, she at once said she experienced the same pain that she always did during a paroxysm. Examination of the rest of the abdomen revealed nothing abnormal, except that the stomach was evidently dilated. She was admitted to the Adelaide Hospital on September 28th. A couple of days later I examined her in bed with my colleague, Mr. Heuston. At first we could find no tumour, but when we put her sitting up in bed, and gave her a slight shake, the tumour at once appeared in the same position I had at first found it. When I first saw her she had been walking about town, so that the tumour lay in a convenient position for investigation, but after lying in bed for a couple of days it had gravitated into its normal position. From the sensation the tumour gave to the fingers, and from the severity of the pain she suffered, I believed we had not only to deal with a movable kidney, but also probably with one the seat of calculus. I therefore determined to open the abdomen, to examine the kidney; if healthy, to stitch it into its proper position, and if calculous, to excise it. I also believed that this exploration could be much more easily and much more thoroughly performed through an anterior than through a lumbar incision.

The operation was performed on October 4th, 1892. A vertical incision was made in the right linea semilunaris, about five inches in length, and the peritoneum opened. The kidney had fallen back into its normal position below and behind the liver, so that I had to pass my hand up to this position and lift it out of its bed. It came readily forward, and at once confirmed the diagnosis of a floating kidney. It appeared a little more crimpled than usual, but otherwise normal, except for its surroundings. It was totally devoid of its usual fatty capsule, and instead of this was accurately covered all round with peritoneum. The peritoneum was reflected at the hilum on to the vessels and ureter until it reached the right side of the spine, when it became continuous with the posterior parietal layer. The kidney had thus a perfect mesonephron. The upper portion of the kidney at its internal border was firmly attached to the duodenum by a peritoneal band; by drawing the kidney downwards until it occupied the same position which it usually did in its wanderings, it became apparent that it so dragged upon the duodenum as in a great measure to kink it and so to close its lumen. This explains the dilated condition in which the stomach was found to be, and was evidently the

cause of her gastric troubles. I then punctured the kidney in several situations and directions with an ordinary round sewing needle fixed in a handle, in order to satisfy myself as to whether it contained a calculus. Having found that there was no stone to be felt, I fixed it in the right side as nearly as possible in its normal position. The method I employed was this:—I passed a strong curved needle, armed with a stout silk ligature, through the posterior wall of the kidney first. The needle entered in the lower half, transfixing the peritoneal and fibrous capsule, and probably portion of the renal substance. It emerged in the upper half, about 1½ inches from the point of entrance, in a vertical line above it. Having drawn the silk through, I withdrew the needle. The upper end of the ligature was then threaded into the needle. With my left hand I encircled the tissues in the loin, so that with the thumb inside the abdomen, and the fingers externally at the back, below the 12th rib, I could feel that there was nothing between them than the posterior abdominal wall. I then transfixed the wall with the needle, bringing it out just below the 12th rib. A small incision was then made at this point in the back, through the skin, in order to be able to bury the knot of the ligature. The end of the silk being secured, the needle was withdrawn and threaded with the lower end of the ligature. The posterior abdominal wall was again transfixed, as nearly as possible about 1½ inches below where the first ligature entered, and was brought out through the small incision in the loin. The two ends of the ligature were then firmly tied behind so as to fix the kidney in this position. The ends were then cut off and a single suture through the edges of the skin completely closed the wound over the knot. The abdominal wound was then rapidly closed, and the patient removed to bed. She made an uninterrupted recovery. She came to see me two months later. I could not then detect anything abnormal with the kidney. The silk ligature has given no trouble, and she has completely lost the dragging pain and the paroxysmal attacks from which she suffered, but she is still troubled with indigestion and flatulency, but she has lost the sickness.

I have brought this case forward mainly because a true floating kidney—that is, a kidney with a well-defined mesonephron—is not very often met with at an abdominal operation, nor in the dissecting room, nor at an autopsy. In fact, this condition is so rare that some writers even doubt its existence. Thus, Sir Wm. Jenner says, in his Clinical Lectures on the Diagnosis of Extra-Pelvic Tumours of the Abdomen—"A movable kidney is one thing, a floating kidney is another. We very rarely see or feel a floating kidney. I have never met with one, after death, though I have felt in a patient what has been supposed to be one." He does

not, however, deny that such a condition may exist. Mr. Lawson Tait is more sceptical. In the *British Medical Journal* for Nov., 1882, in reference to a case "pronounced to be a 'floating kidney' by several distinguished authorities," but which proved at the time of operation to be a distended gall-bladder containing a large number of gall-stones, he said—"I put the floating kidney altogether on one side; besides, I have never seen such a thing, either in life or in a museum, nor have I met anyone who has. In fact, I have no belief in its existence as a pathological incident." This statement alone would warrant me in laying the above case before the Academy.

Newman's classification of displacements of the kidney is the most convenient. He divides them into three classes:—

1. Simple displacement, without mobility of the kidney.
2. "Movable kidney," where the organ is perceptibly mobile behind the peritoneum.
3. "Floating kidney," where the peritoneum forms a mesonephron which attaches the kidney loosely to the spine.

Simple displacement without mobility is congenital and by no means uncommon, and may exist without causing any disturbance. Newman found that in 1,000 *post-mortem* examinations 24 cases occurred where the position of one or both kidneys might be described as distinctly abnormal. In 9 of these cases there was also malposition of the supra-renal capsule. Roberts states that in 21 cases which he was able to collect and compare, the abnormality was in every instance confined to one kidney, and the *left* kidney was much more commonly affected than the right (left, 15; right, 6). In these cases of simple displacement the renal artery is abnormally long, and the renal vein enters the nearest large venous trunk. The kidney is never found in the epigastrium or the hypochondriac regions. It may be found transversely behind the umbilicus, in front of the vertebral column, in the iliac fossa, on the sacro-iliac synchondrosis. M. Aubé has found it between the common iliac arteries, close to their origin from the aorta; and Pacoud describes a case in which a kidney was found in the pelvis between the rectum and bladder. Whatever position the kidney occupies, it is fixed there.

In *movable kidney* the organ is mobile behind the peritoneum, either within its adipose capsule, or in a sac formed between the peritoneum and the muscular wall of the abdomen.

It is an acquired condition, and may appear first at puberty,

but usually is discovered between the ages of twenty and sixty. About 81 per cent. occur between twenty and fifty.[a] It is not unknown among children; Steiner[b] found it three times in children aged respectively six, nine, and ten years; Kepler[c] saw it in a little girl of nine; and Hirschsprung[d] in two cases—one a boy of seven, and the other a girl aged eight years; but movable kidney in children is quite exceptional.

Movable kidney, though of much more frequent occurrence than the floating variety, is nevertheless *pathologically* rare. In over 11,000 autopsies in three hospitals, quoted by Newman, only 11 cases were found, or only 1 in 1,000. In the Klinik of Oppolzer, given in Rollet's statistics, there were 22 cases in 5,500 autopsies, or 1 in 250; Ebstein states that in 3,658 *post-mortem* examinations in the Charité Hospital at Berlin, a movable kidney was found only 5 times, or once in 731 autopsies.

Clinically, however, we recognise that mobility of the kidney is much more common. I have seen four or five cases in which I had no doubt about the diagnosis, but in which the mobility of the kidney gave rise to no symptoms, and therefore the diagnosis could not be verified. The case I have recorded was one of floating kidney, and at the operation the diagnosis was proved correct. Skorczewsky[e] states that in 1,422 patients whom he examined during life, 32 females out of 1,030, and 3 males out of 392, were the subjects of mobility of kidney. Amongst the poor of Austria, according to Oser of Vienna, 10 per cent. of the women who have borne children are affected.

Now, the discrepancy between the pathological and clinical statistics may be attributed, of course, to faulty diagnosis. But I think it may be accounted for otherwise. In autopsies, and in abdominal operations, the subject occupies the dorsal position, which favours the return of the kidney to its normal situation. Hence, unless attention is specially drawn to the organ, its power of mobility is likely to escape detection. Again, as noticed by Newman,[f] "the adipose tissue around the kidney becomes firm after death, so that even in a case where the kidney was movable

[a] Newman. Surgical Diseases of the Kidneys. 1888. P. 27.
[b] Compend. der Kinderkr. Leipzig. 1872. P. 314.
[c] Archiv. für klin. Chirurg. 1879.
[d] Hospitals-Tidende. 1879. T. VI., p. 48.
[e] Morris. Diseases of the Kidney. 1885. P. 27.
[f] Loc. cit. P. 30.

during life, it might become so fixed after death as to escape observation."

There are two features about movable kidney which are particularly striking. First, the relative frequency of the condition in women as compared to men; and secondly, the relative frequency of the right side over the left.

The proportion of women affected with movable kidney as compared with men is very great. Thus, in 64 cases in Lancereaux's table, there were 55 women to 9 men. In a table of 249 cases compiled by Dr. A. W. Foot,[a] there were 215 women to 34 men. Both of these give a proportion of about 6 women to one man. In the 290 cases collected by Newman, the sex is given. Of these 252 were women and 38 men—a proportion of 1 to 6·6. In Keen's table of cases of nephrorrhaphy[b] for movable kidney, the sex is reported in 99 cases. Of these 93 were women and 6 men—a proportion of 15·5 to 1. The excessive proportion in Keen's table would seem to indicate that women either suffer more from a movable kidney than men, or that they are more ready to submit to an operation for relief.

In considering the relative frequency of mobility of the two kidneys, it is remarkable how much more common it is on the right than on the left side. Ebstein gives 4·5 to 1 as the ratio; but this seems too small. In Landau's tables[c] he found movable kidney 151 times on the right to 13 on the left—a proportion of 11·6 to 1. Fourteen times he found it bilateral. In Keen's tables of nephrorrhaphy the side is reported in 87 cases: of these 76 were right and 7 left—a proportion of very nearly 11 to 1. He found it on both sides in four cases.

Considerable diversity of opinion exists as to the causes of movable kidney. Cruveilhier attributes it to the pressure exerted upon the liver by stays, this transmitted pressure driving the kidney out of its normal situation. This, however, will not explain its occurrence in men, nor in those women who do not wear tight stays. Lancereaux calls attention to the physiological and pathological relation between the kidneys and the generative organs to explain its occurrence. Guttmann[d] calls attention to the congestion of the kidneys which accompanies the menstrual epochs. These

[a] Dub. Med. Journal. 1881. Vol. I. P. 386.
[b] Trans. Amer. Surgical Assoc. 1890. P. 197.
[c] Archiv. für. klin. Chirurgie. 1879.
[d] Traité du Diagnostic. P. 444.

organs tumefy, become heavier, and have a tendency to leave their normal position and to descend little by little into the abdomen. But even in women this will not always explain the occurrence of renal mobility—as, for instance, in the case reported by Guyon,[a] where a movable kidney, accompanied by acute pain, appeared for the first time in a woman aged fifty-four, a year after the menopause. Landau attributes the different behaviour of the right and left kidney to the difference in their mode of attachment, to the difference between the hepatic and the splenic flexures of the colon, to the position of the left renal vessels above the horizontal part of the duodenum, to the shortness of the left renal artery, and to the extra support the left kidney gets from the attachment of its vessels to the pancreas.

Newman[b] offers the following explanation:—"The posterior surface of the right kidney is practically in contact with the crura of the diaphragm and the great lumbar muscles, while interposed between its anterior surface and the anterior abdominal wall there is a large solid organ—the liver. Now, suppose the patient strains the abdominal muscles, as during delivery, or in lifting a heavy weight, both the anterior and posterior abdominal muscles are brought into powerful action, the liver being pressed backwards by the anterior muscles, the kidney pressed downwards by the crura of the diaphragm, and forwards by the posterior abdominal muscles. Now, the resultant of these forces will act in a manner similar to what takes place when one presses a bean between the finger and thumb—that is to say, the kidney will be pressed downwards."

I do not think, however, that we can accept this as the solution. No doubt women experience great abdominal strain during delivery; but in lifting heavy weights, and in work involving severe strains on the abdominal muscles, men are much more liable to injury than women. If this were the cause of mobility in the kidney we should find it much more commonly in men than we do, and perhaps even more frequently in men than in women. But this mechanical theory of Newman's might be accepted as a good working theory if the liver were a solid body—that is, if in the living body it were as solid an organ as it appears to be on the dissecting-room table; but we know it is not, and, as Professor Cunningham has pointed out to me, the very pressure which

[a] Journal de Méd. et de Chirurgie Pratiques. 1888. P. 441.
[b] Loc. cit. P. 36.

Newman thinks would tend to drive the kidney downwards would in reality only help to bury it the deeper in the under-surface of the liver.

Now, in seeking for a cause which will satisfy the majority of cases of movable kidney, we must bear a few facts in mind which will also, I think, help us to a proper solution. In the first place, movable kidney is much more common among women. Secondly, it is found mostly in women who have borne large families, and who have had their children in rapid succession; it occurs in the large majority of women during the child-bearing period—81 per cent. between the ages of twenty and fifty. Thirdly, it is generally found in women who, from some cause or other, such as repeated pregnancies, have emaciated rapidly. Fourthly, it is found much more frequently on the right than on the left side. Now, the explanation of this last circumstance, I think, may be explained on purely anatomical grounds. Besides the considerations already alluded to, which Landau holds sufficient to account for mobility on the right side, we may remember the position of the pancreas, which practically binds down the left kidney, and renders its dislocation much more unlikely than on the right side. The other facts I have mentioned clearly indicate a close relationship between frequent pregnancies and movable kidney, when occurring in women, as the main factor in producing the latter. Whatever influence the position and shape of the liver, under ordinary circumstances, may have, as believed by Newman, we must bear in mind that the shape of the liver and its relations are materially altered during pregnancy. It is then mainly composed of an upper and under surface, its anterior and posterior surfaces being reduced to very small proportions. The kidney then is almost unprotected by it, and protrudes below it to a much greater extent than in the normal condition. What influence this may have in facilitating displacement has still to be worked out. In any case, however, the sudden removal of the intra-abdominal pressure following on parturition leaves the kidney, as well as other organs, suddenly deprived of their accustomed support. In the upper and middle classes of society women usually retain the recumbent position for some time after delivery long enough to allow the abdominal walls to regain their firmness and elasticity. But among the poorer classes this is not the case; they leave their beds at an earlier period, while the parts are still lax, and a binder is but imperfectly applied. The result is that every

opportunity is afforded to the internal organs to become displaced, and hence we find that movable kidney among the poorer classes is much more frequent than among the rich. Thus Newman[a] writes:—"The great majority of the patients whom I have seen suffering from these diseases were poor, and had been subjected to the conditions just mentioned. In many instances the pregnancies succeeded one another so rapidly that the mother had no time to recover between these periods, and consequently progressive emaciation resulted. In such cases the peritoneum becomes stretched and flaccid, its union with the posterior abdominal wall loosened, and by the flaccid condition of the anterior abdominal muscles, pendulous belly ensued; the intra-abdominal pressure was thereby reduced, and so the kidneys practically came to be suspended by their anatomical attachments, which were rendered unable to fulfil their function properly." In the twenty-one cases observed by Newman, nineteen were females, ten of whom had borne large families, and six suffered from pendulous abdomen. In A. W. Foot's monograph on the subject he mentions four cases of movable kidney which he had met with (without specially looking for it), all in women. Three were married and had borne children.

In women who have not borne children, and in men, we must seek for other causes of movable kidney. "A cause which seems to operate in many cases, and which is applicable to either sex, is a different and simpler modification in the anatomical arrangements of their surrounding parts [than the possession of a mesonephron], by which the kidneys may be rendered movable to a considerable extent—namely, the removal of the peri-renal fat in the progress of emaciating diseases, such as phthisis, or from less obvious reasons."[b] Riolan,[c] quoted by Foot, pointed out two hundred years ago the disappearance of the peri-renal fat as the cause of movable kidney. In 1857 Oppolzer noticed that in these cases the kidneys, when examined after death from other causes, were found to be healthy, but "there has been observable a deficiency in the cushion of fat and a lengthening of the renal vessels."

"There is little doubt," writes Newman,[d] "that an absorption of the fat surrounding the kidney will render the tunica adiposa

[a] Op. cit. P. 27.
[b] A. W. Foot. Loc. cit. P. 389.
[c] Manuel Anatomique et Pathologique Lyon. 1682. P. 228.
[d] Loc. cit. P. 29.

more lax, and loosen the attachments of the organ, stretch the renal vessels, and permit undue freedom of movement and prominence of the kidney."

Traumatisms occasionally are responsible for dislocating a kidney from its normal situation. A very interesting example was laid before the Medical Society of the College of Physicians of Ireland, in 1874, by Dr. W. B. Peebles.[a] A young married lady had a phaeton turned over upon her by a runaway horse. She was found underneath it, on her right side, insensible. She was kept in the horizontal position for a month. Two days after she was allowed up she was seized with symptoms of acute nephritis. Shortly afterwards she discovered what she called a "gizzard" loose in the abdomen, following the movements of the body. When it was near the stomach food passed in seemed to strike against it. When the upright position was assumed it fell downwards. It was tossed about by the movements of flatus in the bowels. There was "great agony" accompanying all these movements. The diagnosis made by those who saw her was a displaced kidney. It seemed probable that the edge of the vehicle, resting directly on the left side of the loin, had contused the deep parts against the spine, while a good deal of clothing and the cushion had saved the skin; that the kidney was then loosened in its bed, and that it dropped out afterwards when the upright position had been assumed. The diagnosis was confirmed a month later when suppuration occurred in the tumour, and was discharged with the urine per urethram. Recovery was subsequently complete.

At the same meeting of the Medical Society, Dr. Gerald Yeo related the case of a labouring man, aged forty-five, who had recovered from serious injuries caused by a cart passing over his loins. A year and a half after the accident his left kidney could be displaced by manipulation over the margin of the quadratus muscle, and could be seized through the abdominal wall as it lay under the ribs.

Morris[b] quotes from Henoch the case of a military officer who fell upon his feet from a horse, and suffered a violent concussion of his entire body; subsequently both his kidneys became movable.

The various causes enumerated above apply only to movable kidney. Floating kidney is essentially a congenital condition. The description I have given of it, as found in the case I have

[a] Dub. Med. Journal. 1874. Vol. LVII., p. 338.
[b] Surgical Diseases of the Kidneys. 1885. P. 30.

reported, is sufficiently characteristic. It may remain unobserved for years, giving rise to no symptoms, and some accident may be the first thing to call attention to its existence. I think it is highly probable that while the pedicle is short it may give rise to no inconvenience, but when as the result of hard work, or of repeated pregnancies, the mesonephron with its interposed blood-vessels becomes elongated, it begins to drag upon contiguous structures—as, for instance, upon the duodenum, and so gives rise to symptoms often of an acute character, which lead to its detection. Thus a floating kidney, like a movable kidney, may escape detection for years. Until the abdominal cavity is opened it is impossible to distinguish between the two forms. It is supposed by some that in the true floating variety there is a greater freedom of motion than in the movable, but this is not the case. In the latter variety, occasionally, "owing to the flaccidity of the peritoneum, the degree of mobility is as considerable as though the kidney possessed a long and loose mesonephron."[a] In the Report of the Committee of the Pathological Society of London,[b] Dr. Bindley's case is mentioned, in which the kidney was able to move under the peritoneum over a space described as a circle having a diameter of eight or nine inches. Thus a movable kidney may fall as low as the brim of the pelvis, or may lie immediately beneath the anterior abdominal wall, or may cross the spinal column to the opposite side. From a surgical point of view, there is an important difference between these two varieties of renal displacement. In the floating variety it is impossible to reach the kidney without opening the peritoneum, whilst the movable kidney can generally be reached from the loin without in any way injuring this membrane. But from a clinical and diagnostic standpoint, the two varieties are indistinguishable. Therefore, in referring to the symptoms produced by movable kidney, it will be understood that the same reference applies to floating kidney also.

In a large number of cases movable kidney gives rise to no symptoms whatever. In such cases the pressure of the mobile tumour is accidentally discovered by the patient or by the medical man whom she consults for some other ailment. The nature of the tumour is made out then by the physical signs and by the history of the case. The tumour generally presents the outlines of the kidney. The hilum may be felt. It is firm, smooth, and

[a] Morris. Loc. cit. P. 26.

[b] Transactions Pathological Society of London. Vol. XXVII., p. 473.

generally insensible, or very slightly sensible to pressure. It is for the most part painless. Sometimes, however, a dull, dragging pain is experienced, or it may come on in severe paroxysms resembling renal colic; if the kidney is then pressed upon or manipulated, a sickening sensation or a "fainting pain" is experienced, which is very characteristic. The tumour, which can be moved freely about, can in general be made to disappear into the hollow of the loin, into the normal situation of the kidney; this sign is almost pathognomonic of movable kidney. It is also possible sometimes not only to make out the shape of the kidney and the hilum, but to recognise the pulsation of the renal artery as it enters the concave border. I have had for twelve years a patient under observation, who possesses a freely movable kidney on the left side, which produces no symptoms or inconvenience whatever. The kidney can be freely moved about even across the middle line and down to the line joining the anterior superior spine to the umbilicus. The shape can be easily mapped and the pulsations of the renal artery at the hilum are perfectly distinct and easily felt. In general, when the kidney is displaced, a depression can be recognised in the loin in the position usually occupied by the kidney. Percussion is unreliable, as it is impossible to eliminate the coils of intestine which may lie in front of the kidney, and which may give a clear note.

In the majority of cases it is true that movable kidney gives rise to little or no trouble, but in some, at any rate, it may become a source of great discomfort or danger. Thus Keen[a] writes:—"The discomforts are very great, and the pain may be so excessively severe and prolonged as to interfere with all occupation, and practically to make life almost unendurable. . . . The disorder may pass beyond the realm of bearable evils into serious and actual danger to life itself, so that in considering the slight mortality from nephrorrhaphy, we must also bear in mind that there is a mortality attending the expectant treatment as well." Professor Le Dentu,[b] of Paris, says:—"The suffering is sometimes so acute, that life becomes nothing but an endless torture."

These severer symptoms are many and various. The most frequent of these have reference to the stomach. There may simply be gastralgia and dyspepsia, accompanied by a dragging pain and sensation of weight in the affected side of the abdomen.

[a] Transactions American Surgical Association. 1890. Vol. VIII., p. 184.
[b] Surgical Affections of the Kidneys and Urethra. 1889. P. 581.

The gastric disturbances may become severe and acute, as in my patient. The pain steadily increases until it becomes intolerable and agonising. Vomiting frequently follows, either of food recently taken or of a green-looking fluid. M. Mathieu[a] recently stated at the Société Médicale des Hôpitaux that he had observed some patients in whom there had been very severe attacks of vomiting some ten or twelve times a day for a fortnight or even more. There was a strong resemblance to some of the gastric crises of locomotor ataxy. There was severe abdominal pain, and in a few cases such gastric dilatation as to suggest a temporary constriction of the pylorus.

Many theories have been offered to explain the occurrence of these gastric crises. Bartels[b] considered that where the right kidney was displaced and came in contact with the second portion of the duodenum, the compression might be sufficiently strong to cause dilatation of the stomach. This is the view M. Mathieu[c] adopted at the meeting of the Société Méd. des Hôpitaux, and M. Legendre supported him in the discussion.

Newman[d] does not believe that these symptoms are caused simply by direct pressure, "for we know that large tumours may exist and move freely within the abdominal cavity without causing much reflex disturbance; it is more probable that they are due to dragging upon the renal vessels and nerves."

Morris[e] declares that these gastric crises are caused "by the dragging or pressure of the kidney upon the middle portion of the duodenum."

Now in the case I have reported, I think, we find the simplest explanation of these gastric crises. It may not, of course, be universally true. It may be possible for the kidney to roll over on to the middle portion of the duodenum, and so compress it; but anatomically this is not likely. When we remember the intimate connection between the under-surface of the liver and this portion of the duodenum, it is difficult to understand how the kidney could insinuate itself between the two, in order to compress the latter. But there may be, as my case shows, a sufficient connection between the duodenum and the kidney, so that every movement of the latter more or less influences the former. A

[a] Le Progrès Méd. Oct. 29, 1892.
[b] Journal de Médecine et de Chirurgie Pratiques. 1884. T. LV., p. 394.
[c] Op. cit.
[d] Loc cit. P. 39.
[e] Loc. cit. P. 31.

slight degree of traction would probably affect the duodenum inappreciably, but when the kidney descends as low as I found it—that is, below the level of the umbilicus in front—it drags the vertical portion of the duodenum with it, and so causes it to kink at the angle where the first joins the second portion, and thus more or less completely occludes it. This condition was clearly demonstrated in the case I have reported. It is easy, when such a condition holds, to understand the severe gastric crises which may ensue, and which disappear as "the lump" sinks back into its normal position.

The same dragging or pressure on the vertical portion of the duodenum will explain in most cases another symptom which occasionally is found in movable kidney—namely, the occurrence of jaundice. Were the traction or the pressure sufficiently great to close the intestine it would easily follow that the common bile duct would easily share in the obstruction. That jaundice is less frequent, certainly not as common as the gastric disturbances, would follow as a matter of course, for it would require but a comparatively short period of obstruction in the duodenum to induce severe gastric symptoms, whilst jaundice would only follow on a prolonged obstruction of the bile duct.

Newman[a] attributes the jaundice, in a case observed by him, to catarrh of the bile duct, or to gall-stone; and Lindner[b] supposes it to be due to reflex spasmodic stricture of the biliary ducts.

In addition to the symptoms ennumerated above, there are other symptoms which call for mention—such are the neuralgic pains in the loins, starting down the thigh, or along the groin of the affected side. Defontaine has reported the case of a patient in whom pressure over the displaced kidney occasioned an immediate echo at the meatus and a sense of weight in the scrotum; and Professor Le Dentu mentions the case of a lady who complained of a sensation at the neck of the bladder the moment he laid his hand over the site of a dislocated kidney. For diagnostic purposes it is well to bear in mind another characteristic of the sufferings induced by movable kidney. In a large number of cases the symptoms become more accentuated and severe immediately before and during the catamenial periods.

Hydro-nephrosis is not an infrequent complication of movable kidney. "When the kidney drops forward or downwards, as after

[a] Op. loc. cit. P. 39.

[b] Deutsche med. Wochensch. 1884. No. 15.

long standing or sitting, the course of the ureter becomes so deflected and curved upon itself that the urine cannot flow along it; and this temporary obstruction, frequently repeated, leads at length to a permanently distended state of the renal pelvis."[a] Thus what at first may lead only to temporary or intermittent hydro-nephrosis may ultimately result in serious disorganisation of the renal structure itself. In Newman's 21 cases, he found intermittent hydro-nephrosis in 4, and albuminuria in 5.

Knowsley Thornton[b] reports a case of double hydro-nephrosis due to mobility of the kidneys, and states that torsion of the ureter may give rise to uræmia.

This rotatory power of the kidney in its mobile state may not only obstruct the ureter, but may produce torsion of the vessels. The symptoms accompanying this latter condition resemble those which indicate torsion of the ureter, in the sudden diminution in the quantity of urine, the renal pain, the vomiting, the persistent headache, and even uræmic symptoms; but in torsion of the vessels, as the blood flowing through the kidney is shut off, there is no increase in the size of the kidney by retained secretion. The flow of urine which succeeds replacement of the kidney in its normal position is copious; but it is of a high specific gravity, instead of low, as from a transitory hydro-nephrosis (Newman).

In the majority of cases of wandering kidney the diagnosis can be easily arrived at. A tumour of the shape and consistency of a kidney, which can be pushed easily from below upwards, and made to disappear completely into the lumbar region, is sufficiently characteristic. When its reducibility is, however, not complete, the diagnosis is not so easy, and the tumour may be easily confounded with a tumour of the liver, of the spleen, of the ovary, or, more frequently still, of the mesentery. A kidney which has been mobile for a length of time may, owing to the pressure or traction which it exerts upon neighbouring structures, set up inflammatory action, which leads to the formation of adhesions, and consequently changes the movable into a fixed displaced kidney. In such cases much assistance in the diagnosis may be obtained by a careful attention to the previous history. But even in movable kidney mistakes have been made. Dr. A. W. Foot,[c] in his admirable paper on the subject, quotes the case of a woman

[a] Morris. Surg. Diseases of the Kidney. 1885. P. 32.
[b] Surgery of the Kidneys.
[c] Loc. cit. P. 393.

in whom attempts had been made to restrain the motion in a floating kidney by passing a tape seton through the walls of the abdomen and the tumour. "Some hæmaturia was noticed after the operation. After three months the seton broke and came away. Four years after, the kidney was removed successfully, the organ was found in the umbilical region, a deep cicatrix, about two and a half inches long, marked the track of the seton. The patient was an Irishwoman, aged thirty-five. She had been eight years affected with a pain and tumour in the right side, and, the report says, she had undergone 'the usual operation for ovarian tumour without removing the cause of her trouble.'" Prescott Hewitt relates the case of a woman, aged seventy-three, in whom a hard tumour, the size of the fist, lying in the right iliac fossa, had, on three separate occasions, been detected by medical men. Although the patient had for several years before her death passed bloody urine, alkaline and full of mucus, the diagnosis was made of a fæcal accumulation. At the autopsy, the tumour was discovered to be a movable kidney, containing one large and two small stones in its pelvis.

In Keen's tables of nephrorrhaphy there are two cases in which a distended gall bladder was present as well as a movable kidney. In one of them, Mear's case, the movable kidney was found through the lumbar incision, and stitched into position, and then cholecystotomy was performed, and the opening in the gall bladder stitched below the kidney in the lumbar wound. In the other, Tischendorf's case, the mobile kidney was discovered during the operation for gallstones. Mr. Lawson Tait[a] has published a case of distended gall bladder upon which he successfully operated, but which had been diagnosticated as a floating kidney "by several distinguished authorities."

M'Cosh[b] relates two cases in which dilatation of the uterine cavity and removal of the ovaries had been the preliminary and ineffectual methods of relieving a woman of symptoms which entirely disappeared after the performance of nephrorrhaphy.

The treatment of movable kidney will depend upon the nature of the case we have to deal with. In the large number of cases which present no symptoms, in which the mobility of the kidney has, perhaps, been discovered by accident, it will be unnecessary to do more than to advise the patient to wear a binder. An elastic

[a] Brit. Med. Journ. Nov. 18, 1882.
[b] New York Med. Journ. March 15, 1890.

belt to support the abdomen will generally suffice. In some cases, where the symptoms are not sufficiently acute to require operative interference, or where, for other reasons, an operation is contra-indicated, it may be necessary to afford greater support to the kidney. The most serviceable, and, at the same time, the least disagreeable apparatus is a wide, elastic belt, supplied with an india-rubber pad, to lie over the region of the kidney, and which can be distended by insufflation, as required by the circumstances of the case.

In some cases, however, the symptoms are very severe, and no relief is obtained by any external support—indeed, sometimes pressure seems to increase the patient's sufferings; or, again, the conditions required to obtain relief may be so elaborate and irksome as to render life miserable; then it becomes the duty of the surgeon to consider what means his art can supply to relieve the distress and to cure the patient. The first attempt to deal radically with this condition was in 1878, when Martin, of Berlin, performed the first nephrectomy for a painful movable kidney. Since then the operation has been performed a sufficient number of times to enable us to estimate its value. Lindner[a] has collected 36 cases of excision for movable kidney, of which 9 died, a mortality of 25 per cent. Newman[b] gives a table of 30 nephrectomies for this ailment, of which 9 died, a mortality of 30 per cent. He observes that in 17 cases the excised kidney was normal. These statistics show that, as regards risk to life, nephrectomy possesses a bad record. It is far more dangerous than nephrorrhaphy, as will appear when we consider this operation. Nephrectomy has the disadvantage, moreover, of removing what may be, and very frequently is, a perfectly sound organ; at the same time, the other, or fixed, kidney may be disorganised. In certain cases, excision of the kidney may be justifiable, and even necessary. If, for instance, the movable kidney is at the same time diseased, and, perhaps, useless, or if it be impossible to push it back into its proper position in the loin, or if nephrorrhaphy have been attempted and has failed, removal of the organ may be the only resource left to us.

Three years after Martin had first performed nephrectomy for movable kidney, Hahn[c] published his first two cases of nephror-

[a] Wanderniere der Frauen. P. 45.
[b] Loc. cit. P. 65.
[c] Centralblatt für Chirurgie. July 23, 1881.

rhaphy, or fixing the kidney into its proper position by means of sutures. Since then this operation has been done a number of times, and has almost entirely, except under special conditions, superseded the operation of excision, on account of the successful results obtained, the small death-rate attending it, and because it retains for the patient the use of an important organ.

In order to reach the kidney, with the object of suturing it into its normal position, two methods may be adopted. First, it may be reached through the lumbar incision—that is, an incision beginning over the outer edge of the erector spinæ muscle, immediately below the twelfth rib, and extending obliquely downwards and forwards for about four inches. Secondly, the kidney may be approached from the front through a vertical incision in the linea semilunaris, as recommended by Langenbuch. The former is generally to be preferred, as in most cases of mobile kidney the organ can be found and sutured in position without opening the peritoneum. In cases of floating kidney, however, as the kidney possesses a mesentery and lies within the peritoneal cavity, it cannot be dealt with without incising the peritoneum. It matters very little whether this serous cavity is opened in front or behind, but the anterior method has the advantage of allowing a more thorough examination of the affected kidney to be made, and in case it be diseased, to discover the condition of the other organ as well.

Four methods have been employed for fixing the kidney in the loin.

M'Cosh[a] thus summarises them :—

1. The sutures may be passed through the adipose capsule alone.

2. They may be passed through the fibrous capsule of the kidney itself.

3. They may be passed through the parenchyma of the kidney.

4. The fibrous capsule may be partially stripped off the kidney in order to obtain a raw surface of renal tissue, by means of which the adhesions, it is believed, would be firmer. The sutures are then passed through the parenchyma and capsule, just inside the border of the raw surface. This is the method recommended by Jordan Lloyd.

Of these various methods it would appear that the best results

[a] New York Med. Journal. March 15, 1890. P. 281.

are obtained when the parenchyma of the kidney is included in the suture, or when the capsule is partially stripped off.

Of the material for suture, catgut has been practically discarded on account of its becoming absorbed before the adhesions have become sufficiently strong to retain the kidney *in situ*. Kangaroo tendon has been proved reliable in the hands of Gould and Morris. Aseptic boiled silk has been used by Keen in his cases, and "it has answered admirably."

Tillmanns,[a] who always passes the sutures through the kidney substance itself, employs both silk and catgut. He incises the capsule, and strips it partially off the renal substance. The free edges of the capsule are sutured to the wound in the loin by one catgut and one silk suture, and then a second catgut and a second silk suture penetrate the parenchyma of the kidney and secure it to the wound. These sutures through the perenchyma do not seem to cause any trouble. Occasionally a little blood is noticed in the urine for a few days, but it soon disappears. Tillmanns objects to the use of silkworm gut, as it cuts through the tissues too quickly, and thus after its use a return of mobility is facilitated.

The wound in the loin is generally healed in eight to ten days; but it is advisable to keep the patient in bed in the horizontal position for a much longer period—about six or seven weeks—so as to afford time for the adhesions to become firm.

By these means a complete cure can be obtained, and the kidney be firmly secured into its normal position. An interesting case in point is published by von Langenbuch.[b] Some months after the performance of nephrorrhaphy for a movable kidney, the patient slipped down some steps, and in consequence of this accident the kidney was apparently again displaced. Upon opening up the original incision, von Langenbuch found that the kidney, which had been fixed in position by four silk sutures, was so firmly retained *in situ* that it had not been displaced by the accident, but the tumour which was found was the displaced lobe of the liver.

The mortality attending nephrorrhaphy is exceedingly small. In 134 cases collected by Keen[c], four died, giving a death-rate of 2·98 per cent. The causes of death in these four cases were—

1st. Ceccherelli's case, in which he resected the eleventh and twelfth ribs in order to get more room, and in so doing wounded

[a] Deutsche Zeitschrift für Chirurgie. Band 34. 1892. P. 628.

[b] Deutsche med. Wochenschrift. 1889. Band XV., s. 16.

[c] Loc. cit. P. 196.

the pleura. The patient died in forty-five hours of atelectasis and pleural effusion.

2nd. Hahn's case, where death was due to an unrelieved ileus, and not to the operation.

3rd. Von Langenbuch's case, in which one of the stitches passed through an old embolic infarct in the kidney, which caused death from septicæmia in three days.

4th. Lawson Tait's case, where death resulted from suppuration, presumably the result of the operation.

In reference to this last case, Keen writes:—"Mr. Tait has operated upon but three cases, one of which, he writes me, ultimately died from the suppuration following the operation, and the others were not benefited in the least; and he declares (*British Med. Journal*, Nov. 16, 1889) that he will have nothing more to do with the fixation of the kidney."

Tillmanns[a] has operated sixteen times by nephrorrhaphy. Of these one died fifty-two days later of concurrent pulmonary phthisis, and death was in no way due to the operation. All the others recovered.

It thus appears that, as regards risk to life, nephrorrhaphy may be regarded as safe an operation as any in surgery.

As regards the results obtained, Tillmanns' cases have the advantage, from a statistical point of view, of having been all performed by the one surgeon. He has been able to follow twelve out of the sixteen cases closely. Of these twelve, six cases were found to have been completely and permanently cured when examined at periods varying from one to three years after the operation. Of the six remaining cases one died of phthisis forty-five days after the operation, and at the autopsy the wandering kidney was found to have contracted firm adhesions to the loin. In three cases no displacement of the kidney was subsequently discovered, but symptoms of "traumatic neurosis" continued. In two cases the kidneys relapsed into their mobile condition. Tillmanns explains these relapses, one being due to the use of silk-worm gut, which cut through the tissues too rapidly; the other to the fact that the patient returned too soon to her work, before the adhesions could have become firm.

In Keen's tables of 134 cases, of which sufficient details were given in 121, there were, after three months, 52 per cent. cured, 17·3 per cent. improved, and 15·7 per cent. were failures.

[a] Loc. cit. P. 650.

ART. X.—*The Influence of Public Cleansing on the Mortality of Towns.*[a] By D. EDGAR FLINN, D.P.H., F.R.C.S., M.R.C.P.; Examiner in State Medicine, Royal Colleges of Physicians and Surgeons, Conjoint Examining Board, Ireland; Surgeon, St. Michael's Hospital, Kingstown; late Medical Officer of Health, East Staffordshire.

A DISTINGUISHED sanitarian describes the process of public cleansing as "the immediate removal of all matter liable to pollute earth, air, or water." The word immediate has a pronounced significance here, for in the immediate removal of towns' refuse and filth lies the essence of the benefits to be derived from public cleansing. No system of town cleansing, be it either public or domestic, can be maintained or efficiently carried out, unless it be undertaken solely by the Sanitary Authority, for according as our towns grow and dwellings increase in number, so much more difficult does it become for individual householders to dispose of their refuse. Again, it is a self-evident fact that the habits of the occupiers of tenement dwelling-houses are a source of difficulty in the cleansing of all towns, be they large or small, and it is unreasonable to expect people to be cleanly in their habits unless certain facilities are offered them, and their houses and surroundings kept in a tolerable state of cleanliness by the corporate body. Of course in this question of public cleansing the situation of a town, its water supply, the method of sewerage, the habits of its population, are each and all of them more or less determining factors in the successful carrying out or otherwise of a particular plan.

It is an established fact that all our great epidemics have their origin in the laneways, court-yards, and alleys of our towns, and these are especially the localities where public cleansing and scavenging should be systematically and daily carried out. These places are generally the homes of our errand-boys, dairymen, van-drivers, porters, and such like, and the dwellings and surroundings of this class of the population should be maintained in as healthful a condition as possible. When localities of the kind I have mentioned preserve a low rate of mortality, it follows that the dwellers in the better quarters of a town have a corresponding immunity from sickness and diseases, more particularly of an infectious character.

[a] Read before the Section of State Medicine in the Royal Academy of Medicine in Ireland, on Friday, February 10, 1893. [For the discussion on this paper see p. 265.]

Unless it be in purely agricultural districts, it may be laid down as a rule that no appearance of truly local cleanliness can be maintained unless public scavenging, removal of house refuse, as well as the sewerage, is organised and carried out under the management and direction of the sanitary authorities. This in recent years has come to be an acknowledged fact, and the daily removing of house refuse is now in a large majority of towns in Great Britain recognised as one of the most important duties of the health department. To this system of public cleansing the reduction of both the general and zymotic death-rate is in part attributed. Previous to the inauguration of the system of public cleansing and domestic scavenging now carried out by the Dublin Corporation, the cleansing of ash-pits, &c., was undertaken by persons who contracted with householders for the removal of such refuse matter. This refuse was stored in laneways and yards, until it was sorted of its bones, rags, cinders, &c. These manure depots were scattered all over the city, and large areas of polluted soil was the result. This system had been going on for years, and no doubt it contributed to the propagation of infectious disorders, and helped materially to increase the death-rate. Nor was this system peculiar to Dublin—other large towns in Ireland, such as Belfast, Cork, Limerick, Waterford, tolerated this vile and objectionable method of filth collection; a method, too, which gave to the Irish towns a reputation for uncleanliness which was becoming proverbial. It is a matter of notoriety that since the entire scavenging and cleansing of the City of Dublin, both public and domestic, was undertaken by the Corporation, the rate of mortality from diseases of a zymotic nature has visibly decreased. Nottingham, Oldham, Plymouth, Newcastle, have similar experience.

Sir Charles Cameron, our zealous and distinguished Medical Officer of Health, in his last-issued Annual Report on the state of the public health in the city of Dublin, recognises the great advantage of public cleansing and filth removal. He says:—"There are few points in the sanitation of towns of so much importance as that of filth removal. It is of especial importance in Dublin. A large portion of the city is situated upon low-lying situations, and upon gravel and other sorts of slight coherence. In such soils filth largely accumulates, and gives off offensive emanations into the overground atmosphere. The great sources of the filth of soils are the privies and ashpits; their contents leak into the ground and stagnate therein. Every year we succeed

in getting privies abolished and water-closets substituted therefor; and it is to be hoped that in a few years Dublin will be as free from privies as Edinburgh now is. I know of no sanitary work more important than this daily cleansing of the yards and sanitary accommodation of the tenement houses."

The Medical Officer of Health for Kingstown, Dr. Byrne Power, also attributes the decrease in the zymotic death-rate of that town to the inauguration of a system of public and domestic cleansing wholly undertaken by the Sanitary Authority, the average zymotic death-rate for three years being only 1·1. In a recent Report he states that "the zymotic death-rate has been on the decline—a fact that I can only account for by the introduction of an ably-organised system of filth removal."

The Belfast Corporation has recently undertaken the systematic removal of refuse from the dwellings of the inhabitants, and, according to the Report of the Medical Officer of Health for Belfast (Dr. Whitaker), the system has been attended with the best possible results, and is already having an influence on the health of the city. I have been favoured with a copy of the Report for the year 1892, of the Executive Sanitary Officer of Belfast, Mr. Conway Scott, C.E. A system of public cleansing was inaugurated in Belfast only in the commencement of last year. In his Report, the Executive Sanitary Officer mentions that so great was the amount of refuse that it took nearly four months to give the city its first regular cleansing, the cost being £2,169. Mr. Scott says that the sanitary effect of the regular removal of such a mass of refuse matter must be beneficial to the public health, and he asks the pertinent question—"What became of the mass of refuse matter in former years? One thing is certain, the great portion of it never left the city." The same question might be asked as regards Dublin—"Where did the vast volumes of rubbish and filth, collected in former years, before the Corporation undertook public cleansing, find a *locale*?" Three-fourths of it never left the precincts of the city. The idea forcibly suggests itself that some of the foundations of our newly-made streets in the northern and southern districts of the city may be in great part composed of this combination of rubbish, &c.—surely an insanitary foundation, and one that may tell its tale in the years to come. The zymotic death-rate for Belfast averaged for the ten years ending 1891 3·5; in Dublin during the corresponding period the zymotic death-rate was 3·3.

In Cork, also, a system of public and domestic cleansing has for some time been put in operation, and the daily collection of house refuse is now undertaken by the Corporation; it has not yet been sufficiently long in working to speak of its merits, or the benefits accruing from its inception, but the death-rate from zymotic diseases is below the average in Cork, the rate being returned as 1·3 per 1,000 per annum.

Londonderry and Limerick both show a low zymotic death-rate for the year 1891, the former being 1·2 and the latter 0·9 per 1,000—in both cities improved methods of public cleansing have been in operation for some time.

The Royal Commission that sat at Dublin in 1879, under the presidency of Sir Robert Rawlinson, C.B., and Dr. Francis Xavier MacCabe (now Sir Francis MacCabe, the eminent Medical Commissioner to the Local Government Board), commented in anything but complimentary terms on the then existing public cleansing and scavenging arrangements in the city, and one of their recommendations was that the entire cleansing and scavenging of Dublin, both public and domestic, should be undertaken and carried out by the Corporation; this recommendation bore good results, and the aspect of our capital has visibly improved since the civic authorities undertook this responsibility.

The general death-rate has not diminished to any appreciable extent, but the zymotic death-rate bears very favourable comparison with that of other large cities; of course, it is evident that public cleansing is only one of the many reforms of a sanitary nature that go to assist in making towns healthful; the system of drainage is also an important factor, and, no doubt, when the main drainage system is an accomplished fact in the city of Dublin, it will assist materially in diminishing the death-rate, both zymotic and general.

A word now as to the necessity of active measures in public cleansing. The immediate removal of all refuse and filth is the most essential element in the public cleansing of towns. Even to deposit refuse temporarily on the ground is dangerous, as the atmosphere of the dwellinghouse is very much affected by the state of the atmosphere of the soil near it. If the soil near a dwelling is allowed to become impregnated with refuse and filth, which is so often cast out of houses of the tenement order, the air must naturally become polluted, and will carry the germs of many diseases to houses at a distance; public cleansing, then, cannot be too strictly enforced, and its thorough administration

becomes year after year more apparent and more necessary for the health of the people and the prevention of disease.

The daily door-to-door collection at a stated early hour each morning, by means of portable dust-bins, supplied by the authorities, and large enough to contain the refuse collected during the twenty-four hours, is a system working well in a large number of towns. It is certainly a vast improvement on the system of emptying all house refuse into an open ashpit in close proximity to the dwelling-house, where a fermenting mixture of dust and vegetable and animal matter is permitted to remain for a long period, creating a public nuisance and a danger to the health of a neighbourhood.

The portable pail collection of house refuse should be enforced by every sanitary authority, for it appears to be the best and readiest system, each householder above a certain rating being supplied with a pail at a small charge, and the poorer class of houses being supplied with them free of cost. In small courtways one large pail could be placed in a convenient position, and would suffice for three or four cottages, or fixed ash-bins in tenement yard, capable of holding the dry refuse of eight or ten houses, and cleaned out daily, is a good and useful alternative; in fact, this would be preferable to having a number of bins, and would render it easier to keep a courtyard or laneway in a cleanly condition. These should be emptied each morning by the Corporation at a certain hour.

Vegetable refuse is a difficulty, and all sanitary authorities have more or less to contend with, as vegetables form an important part in the diet of a great majority of the people, the trimmings and parings of vegetables, fish, fruit, and the like, constituting a most unwholesome form of nuisance, and requiring to be promptly dealt with. Regarding this class of refuse, it is of the utmost importance that authorities should insist upon its immediate removal, as it is a prolific source of disseminating foul and offensive odours, more especially when allowed to remain for any length of time exposed to the atmosphere, and is a menacing danger to the public health.

The pail system of daily refuse removal from the houses of the poorer classes is of decided advantage, more especially if the water system of removal of excreta is not available; this system answers admirably in some large towns in England and Scotland—notably Leeds, Nottingham, Rochdale, Glasgow, Edinburgh; it is a matter for regret that the pail system has not found more favour in

Ireland; it has apparent advantages, and might be applied to a number of small towns in Ireland with great benefit, and its adoption would be speedily followed by a decrease in the number of those diseases which go to augment the death-rate in most of our Irish towns and villages.

To aid in the fulfilment of the benefits to be derived from public cleansing, the domestic cleansing of the houses of the poorer classes is a necessary adjunct, and they must be taught that the initial principles of sanitary work commence in the individual house; the destruction of the first germ of disease is of the utmost importance, and it is to the houses of those resident in the courts and laneways of our cities and towns that the lesson should be taught, that national health lies in the individual cleanliness and surroundings of the house and its inmates. Take the home of a steady, industrious artisan, and note the air of cleanliness existing there; note the cleanly wife and mother, and inquire have they had much illness in their midst, whether they have lost any of their children by any of the infectious disorders (whose abode is always to be found in the midst of filth and overcrowding), and you will most likely be answered in the negative; but pay a visit to the next door neighbour, whose children betoken the little care that is bestowed on them, and you will find all the elements of domestic cleanliness absent, and King Filth reigns supreme. Truly may it be said that "the web of our life is of a mingled yarn, good and ill together;" and our homes are liable at any moment to be invaded with a malady contracted or borne perhaps from the by-lanes or courtways close by. Hence it is vitally important that our poor neighbours should have every advantage offered them to keep their homes and surroundings in a sanitary state.

ART. XI.—*The Treatment of Pulmonary Consumption in Special Hospitals and Dispensaries.*[a] By JOHN KNOX DENHAM, L.R.C.P.I., L.R.C.S.I.; Medical Officer, Donnybrook Dispensary; Surgeon to Dublin Orthopædic Hospital.

THERE is no doubt that the views of the inevitable character and the incurability of pulmonary consumption are now altered, and it is admitted that phthisis is both preventable and curable. Although

[a] Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, January 27, 1893. [For the discussion on this paper, see page 263.]

pulmonary consumption carries off, at ages between fifteen and forty-five, more than one-third of the people who die, and between fifteen and thirty-five nearly one-half, yet the Registrar-General's Reports show that in the last 30 years the annual rate of mortality from phthisis has been reduced by more than one-third. Notwithstanding this enormous death-rate, there is no efficient machinery at our disposal to cope with it.

A very large proportion of the patients suffering from pulmonary consumption come from the poorer classes, and in Dublin every dispensary is crowded with such cases; and I purpose very shortly to review the methods adopted in Dublin in dealing with such cases, and to inquire if those methods are the best available.

No feature in the modern treatment of consumption has received so much attention—and deservedly so—as that which involves on the patient residence abroad, and the literature on climatic treatment is large and exhaustive. A sea voyage or a winter in the south of France is reserved for rich people, and my remarks apply only to the treatment of the poor. In treating poor consumptives, we are limited to the following:—1. We can treat them as out-patients at the dispensaries. 2. We can treat them as in-patients in the large general hospitals. 3. We can treat them at their own homes.

In the first place, we all know that the amount of work to be done at a dispensary is very great; that the pressure on the time of the physician is seriously felt. In the majority of tubercular patients at the dispensary serious symptoms, such as pyrexia, hæmoptysis, diarrhœa, are present, together with some cases of early or even doubtful tubercular nature; and from my experience in connection with general dispensaries, I am satisfied that such patients cannot be expected to receive adequately the special consideration their cases deserve. Further, the waiting-rooms of most dispensaries are, in my opinion, not at all suitable for serious tubercular cases to be kept waiting in, often for a very considerable time, especially when we remember that they are crowded with numerous other patients. I have never seen any special care taken in dispensary waiting-rooms to provide disinfecting spittoons, nor am I aware that any special disinfection of the waiting-rooms is a routine.

Secondly, patients suffering from pulmonary consumption are treated as in-patients in our large general hospitals. I would observe that from inquiries I have made, such patients are admitted

as seldom as possible, unless very urgent symptoms are present, or they are strongly recommended by friends of the hospital. In clinical hospitals it is obvious that to have a preponderance of tubercular patients would not do; besides, from our present knowledge of the peculiar requirements of such patients, it is doubtful whether they are greatly benefited by being treated in a general ward.

As an example, the highest authorities on the subject lay down that each patient should have a fresh supply of air entering at the rate of 4,000 cubic feet per hour, at 62° F., independent of windows and fire-places, also that means should be supplied to carry off the foul air through extracting flues built in the walls. It is considered essential that as much sunlight as possible should be obtained; this is provided by glass verandahs, &c. An exceptionally liberal diet is another essential. Independently of the views that may be held regarding the undesirability of placing patients with pulmonary consumption in a general ward, it is evident that none of the wards of Dublin hospitals, as at present arranged, fulfil the modern requirements necessary to the successful treatment of such patients.

I do not intend to touch further on the subject of a special hospital, because that is in a fair way of accomplishment. I am informed that the hospital is to be built in or near the Vale of Ovoca. This decision I deeply deplore, for I feel that it will benefit Dublin only slightly, and the patients will be deprived of the advantage of treatment by the most eminent physicians.

Parenthetically, I might state that the subject of special hospitals for consumption was fully discussed at the Tenth International Medical Congress in Berlin.

Dr. Philip, of Edinburgh, in a letter to me some little time ago, says, everything points to the advisableness of a consumption hospital being placed on suitable ground near rather than within the city. As you know, this was the unanimous view adopted at an immense meeting of the Medical Section of the Tenth International Congress at Berlin, 1890, when representatives of all nations made communications. Comparatively recently Professor Leyden has induced the medical authorities of Berlin to combine together for the founding of special hospitals for consumption, and Austria has taken the same move, under the leadership of Prof. Schröetter, who is arranging for the building of one or more such hospital in or near Vienna. Accepting this as a correct statement of fact, it disposes of all argument against a special

consumption hospital, based on grounds of our being over-hospitaled, or that such an institution would tend to starve existing charities. If we decide that a special hospital is a necessity for our sick poor, I have no fear but that the money necessary will be gladly subscribed without injuring any existing charity.

Now as to the treatment of the patient in his own home. It is here that our greatest difficulties face us. No matter what development may take place on the lines of special dispensaries or special hospitals for many years to come, the majority of patients will have to be treated in their own homes. It is unnecessary for me to say much about these homes of the poor in our city and suburbs, and, without in the least underrating the splendid work done in the city both by the Corporation and other bodies in improving the dwellings of the poor, still no artisans' or labourers' dwelling give a consumptive the best chance.

So seriously is the physician handicapped, that, while doing his best for the individual patient, his main efforts must be made in the direction of protecting the other members of the family, and doing his best by the adoption of stringent hygienic measures. A patient suffering from scarlatina, a disease which has a trivial death-rate compared with that of consumption, is treated as a very dangerous individual; we isolate him, we disinfect him and his dwelling, and destroy his bedding and clothing. Yet our consumptive patients are allowed to suffer and die, without any means being taken to prevent the disease spreading from the infected area and infected dwelling.

Having briefly, and in a very fragmentary manner, shown the means at our disposal for the treatment in Dublin of pulmonary consumption, I will conclude by offering the following deductions for the consideration of this section of the Academy.

I am of opinion that a special hospital for consumption, in or near Dublin, is necessary, and I deplore the decision to place it at such a distance from the city.

Consequently, I believe that we urgently require a properly equipped dispensary in the centre of the city for the special treatment of diseases of the chest.

Also, that to the management of the Queen's nurses for the sick poor a special representation should be made, urging them to direct that particular attention should be paid by their nurses to the laws governing the prevention of consumption.

And finally, that if pulmonary consumption is to be eradicated

from our midst, which I believe to be ultimately possible, it must, and can only, be done by the most energetic action on the part of sanitary authorities, treating pulmonary consumption as one of the most dangerous of infectious diseases.

ART. XII.—*Some Recent Clinical Experiences.*[a] By JOHN WILLIAM MOORE, B.A., M.D., M.Ch., Univ. Dubl.; Censor and Vice-President, R.C.P.I.; Physician to the Meath Hospital; one of the Professors of Practice of Medicine in the Royal College of Surgeons in Ireland.

DURING a recent period of clinical duty at the Meath Hospital, lasting from October 1 to December 31, 1892, an unusual number of interesting cases came under observation. It occurred to me that a selection from these would be acceptable to the Royal Academy of Medicine in Ireland, because, while they are no doubt types of the every-day clinical experiences of a hospital physician, the cases throw more or less light upon obscure features in diagnosis and pathology, and illustrate some practical points in treatment. The cases are as follow:—

1. Axillary Abscess in an Infant, simulating Scarlatina.
2. Septic Peritonitis from Rupture of a small Ovarian Abscess.
3. Retro-pharyngeal Abscess in a Man aged 45 years.
4. A Case illustrating the short Incubation and Invasion of Scarlatina.
5. Thoracic Aneurysm perforating the Pericardium.

CASE I.—*Supposed Scarlatina.* (Reported by the probationer on duty in the epidemic wards, Miss Frances E. Robb).—The patient, J. D., a tiny baby of a fortnight old, was admitted to the observation ward of the Meath Hospital on the evening of November 11, 1892, supposed to be suffering from scarlatina. He was discharged perfectly well on November 25th. His mother is a fragile-looking young woman of twenty-four years, and her only other child pined away and died when three months old from no apparent disease of any kind.

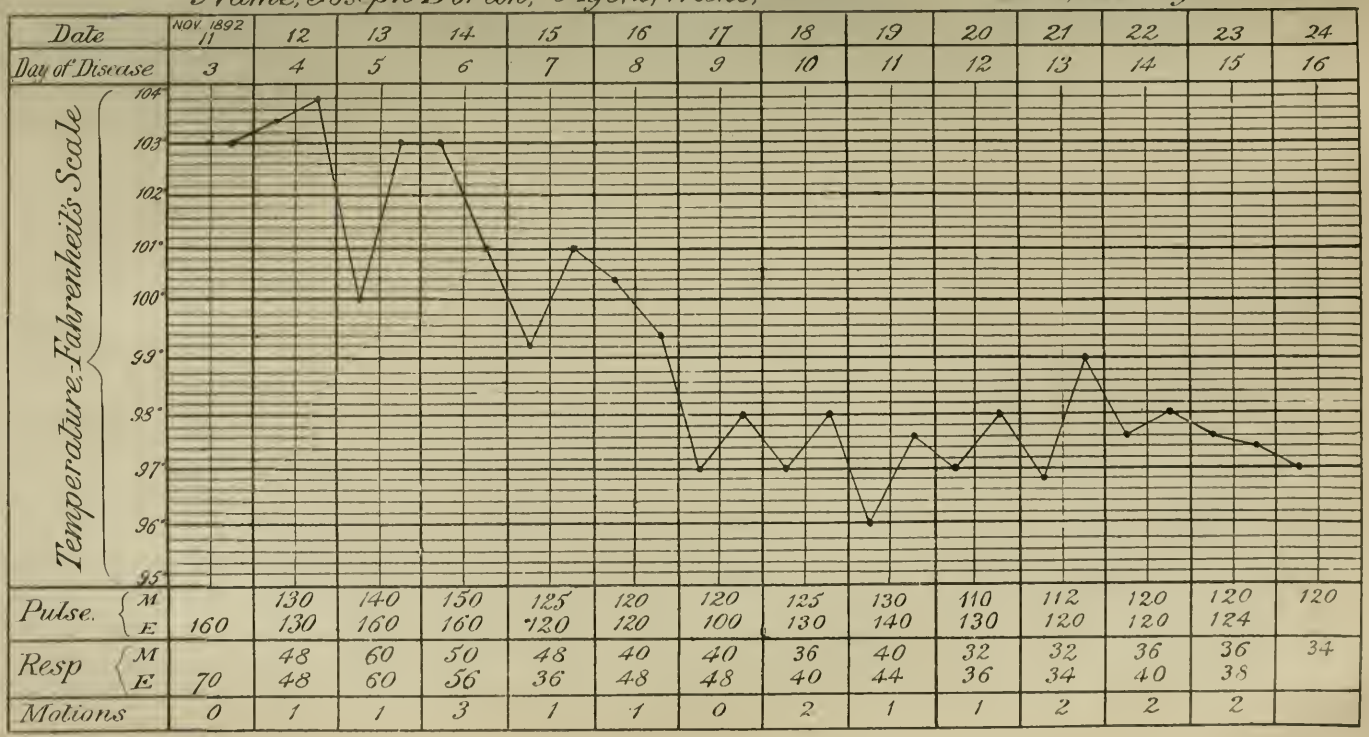
The previous history of the case is slight, but the mother had heard of no cases of scarlatina in the neighbourhood, and cannot understand how the baby is supposed to have taken it, or where. Two days ago the patient appeared restless and very fretful, crying at night and during the day as though in pain. Appetite continuing as usual, and there being

[a] Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, January 27, 1893.

Chart No. 1

CLINICAL CHART OF TEMPERATURE

Name, Joseph Doran, Age, 2, Weeks, *Result, Recovery*



Date	NOV. 1892 11	12	13	14	15	16	17	18	19	20	21	22	23	24
Day of Disease	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pulse. M		130	140	150	125	120	120	125	130	110	112	120	120	120
Pulse. E	160	130	160	160	120	120	100	130	140	130	120	120	124	
Resp M		48	60	50	48	40	40	36	40	32	32	36	36	34
Resp E	70	48	60	56	36	48	48	40	44	36	34	40	38	
Motions	0	1	1	3	1	1	0	2	1	1	2	2	2	

no symptoms of vomiting, purging, soreness of mouth or throat, his mother thought the illness would not signify, being probably only a slight cold. On the morning of the 11th, however, he seemed worse, and in the afternoon was seized with an attack of convulsions. A warm bath was given, and the doctor was at once sent for. The mother gave the infant a dose of castor oil, and on taking him out of the bath wrapped him in blankets and kept him near the fire.

When the doctor arrived he found the baby looking exactly like a big boiled lobster, and covered from head to foot with a tiny red rash, temperature high, pulse and respirations rapid, skin dry and feverish, and tongue dirty. With these apparent symptoms before him, the doctor seems to have had no hesitation in pronouncing the case to be one of scarlatina, and ordered the infant to be taken at once to hospital. Joseph was straightway carried off to the Meath Hospital, wrapped up in blankets, his mother not even waiting to dress him. On arriving at the hospital he was seen by the House Surgeon, who also thought the case was one of scarlatina, and ordered both mother and child to be admitted to the observation ward.

Nov. 11th.—On examination the patient was found to be very feverish, the skin dry and red, a diffuse rash all over the body. The right shoulder almost touches his ear; all around the shoulder, and extending down the side and chest, is a large tense swelling, evidently very painful, the infant screaming when it is touched. He appears to have little or no power in the right hand and arm, and the fingers do not close around anything placed in the hand as babies' fingers are wont to do. His mother noticed this swelling only the day before, but she cannot account for it in any way. She thinks it must be the result of a fall or a bruise, and yet she feels certain that no accident ever happened to the baby.

On the morning of the 12th the patient was examined by Dr. Moore, who pronounced him to be suffering from an abscess in the right axilla. There are no symptoms of scarlet fever except the redness, a rash, and feverishness. The redness and rash were undoubtedly partly due to the feverishness, but also to the hot bath and the wrapping in blankets. The feverishness was a secondary fever, arising from the presence of the abscess. The infant's age is against the diagnosis of scarlatina, he has had neither vomiting nor purging, nor sore throat, nor sore mouth, nor swollen glands; he has not been exposed to infection so far as can be made out. It was ordered that the swelling should be carefully smeared with vaseline and poulticed with linseed meal thrice daily, the infant to be kept warm and carefully watched.

November 15th.—The abscess has been poulticed since the 12th instant, and this morning it broke, a considerable quantity of unhealthy pus coming away. The rash has quite disappeared. Dr. Moore, on examining the patient to-day, ordered the linseed meal poultices to be stopped, and

boric acid dressing to be used instead once a day. There was an unpleasant odour from the discharge.

17th.—Swelling has almost all gone; there is still some discharge; infant looks much better.

20th.—The boric acid dressing has been stopped to-day, as all discharge has ceased; dry dressing to be used instead.

25th.—Patient left to-day quite cured, and looking healthy and strong. The wound is completely healed.

Remarks.—Even before I saw the patient, I questioned the correctness of the diagnosis of scarlatina, remembering how singularly immune against this infectious fever most nurslings are. Many years ago I was asked by Dr. Richard Purefoy to take charge of a lady, one of his patients, who had unfortunately developed an attack of scarlatina while nursing her baby.

The question at once arose whether mother and child were to be separated. On ascertaining that the mother had an abundant supply of milk, I unhesitatingly advised that she should continue to nurse her infant, on the ground that she would be relieved from all trouble with her breasts, and from the excitement attending separation, while the infant would run little or no risk. Throughout that lady's illness she continued to nurse, and the child took no harm.

Several years afterwards I pursued a similar course under analogous circumstances, and with equally good results. So slight is the susceptibility of infants under six months to scarlatina, that a diagnosis of the disease in so young a child should be received with caution, if not with scepticism.

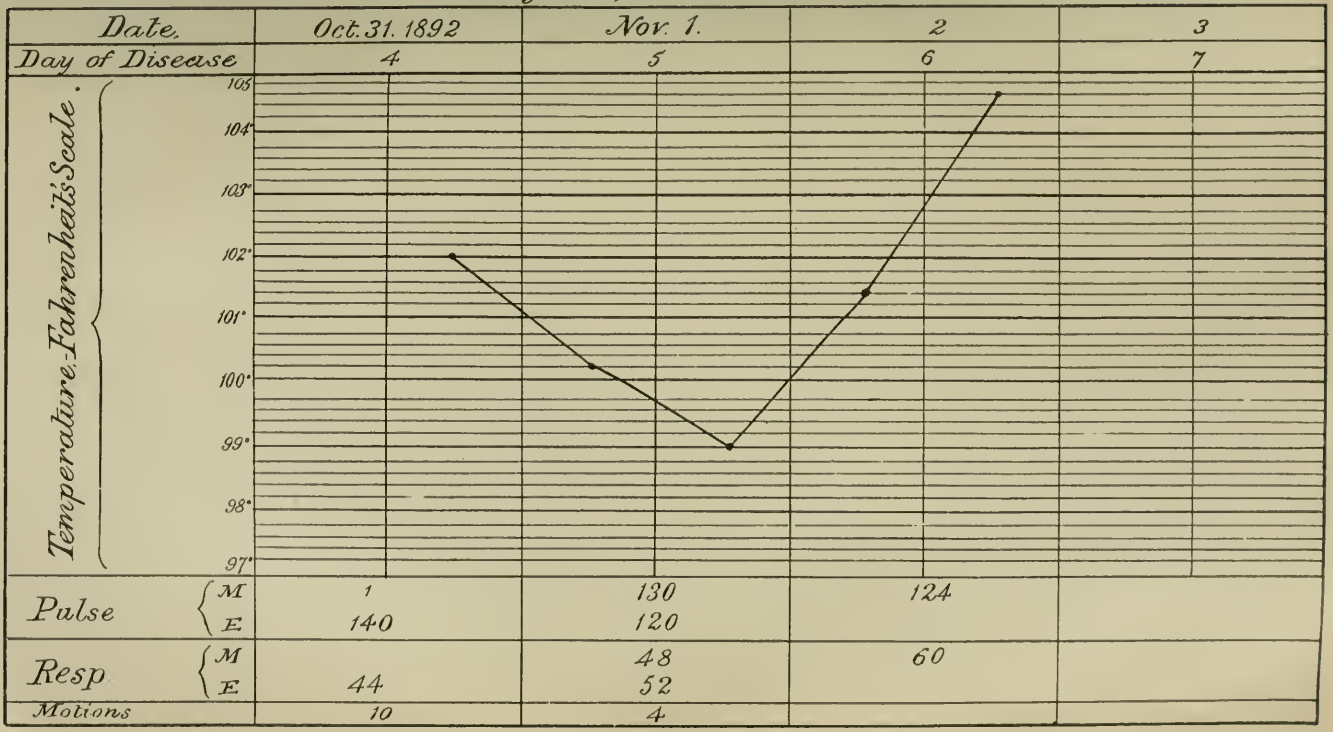
In the case now recorded, the infant had no difficulty in swallowing, and there was no evidence that the throat was sore. The child sucked as well as ever, and the cervical glands were not enlarged. Although the pulse was 160 at the time of admission, the normal rate of the pulse in an infant aged two weeks—120 to 140—is to be borne in mind—in a word, the pulse was not quick enough for scarlatina. The rash and injection of the skin could be accounted for by a fever in so young a child, as well as by the administration of a warm bath. To crown all, the discovery of an axillary abscess sufficiently explained the pyrexia and the other constitutional symptoms in the case.

Case II.—*Septic Peritonitis from Rupture of the Right Ovary.*—My Clinical Clerk, Mr. George Peirce Moore, furnished me with the follow-

Chart No. 2

CLINICAL CHART OF TEMPERATURE.

Name, Mrs. M. M. Age, 33, Disease, Peritonitis, Result, Death.



ing notes of this case:—Mrs. M., aged thirty-three, was admitted into the Meath Hospital on Monday, October 31st, 1892. On admission the patient gave the following account of her illness:—She had been in her usual good health up to the previous Friday, when early in the day she was seized with a violent pain in the "stomach;" shortly afterwards diarrhœa and vomiting set in, the former being very severe. Finding herself worse on Sunday, she came to the hospital on Monday afternoon. She then was in pain (not very severe), had much dyspnœa, a pulse of 140, her temperature was 102° F., and diarrhœa was severe, 8 motions occurring in the course of the evening. The motions were not characteristic of enterica.

On Tuesday the abdominal pain was more intense; there was much tympanites; pulse, 130; respirations=48; temperature had come down to 100·2° F. The patient now commenced to menstruate. She was put on opium (1 gr. every third hour), an ice poultice was applied to the abdomen, and mustard cloths were wrapped round the legs; brandy, 4 oz. When seen the same evening she appeared in much less pain, spoke hopefully of herself, and said she was much better. She took some milk and brandy during the evening and night.

On Wednesday the patient looked worse; her face was cyanosed; respirations, 60 per minute; pulse, 124; she had become unconscious, and there was suppression of urine; her pupils were widely dilated; the abdomen was tense and full. The patient gradually sank (temperature at 7 p.m. = 104·8°), dying at 8 30 p.m.—*i.e.*, on the sixth day of her illness.

On *post-mortem* examination the body was found to be well nourished. On opening the abdomen a large amount of greenish, purulent, and lymphy exudation escaped; there was much matting together of the intestines to each other, and to the abdominal parietes, and all the pathological appearances of general peritonitis were present. No intestinal lesions proper could be found; the mucous coat of the ileum looked healthy, and there was not the slightest enlargement of either the agminate or the solitary glands. The lungs, heart, liver, and kidneys all seemed healthy. Eventually the ovaries were found to be much congested; the right ovary being three times its normal size. On gently lifting it a linear rupture was found on its posterior surface, with effusion of clotted blood, pus, and debris around it; there was no pyosalpinx. Death was thus proved to be due to peritonitis, caused by inflammation and rupture of an ovary, occurring probably at the menstrual period.

Remarks.—When I first saw Mrs. M. it occurred to me that perhaps she had really been suffering from latent enteric fever, and that perforation had unexpectedly taken place, giving rise to general peritonitis. From this grave malady it was only too evident she

had been suffering from the Friday before her admission—that is, for four days inclusive. As this was so, any operative measures seemed to be out of the question, more particularly as her strength had ebbed fast. The question of the ætiology of the peritonitis was set at rest by the *post-mortem* examination. Not a trace of disease was forthcoming in the ileum, the ileo-cæcal valve, the vermiform appendix, or the cæcum and colon. On the other hand, the inflamed and ruptured state of the right ovary, which had evidently been the seat of a purulent oöphoritis, afforded a ready solution of the question: "Whence sprang the fatal peritonitis?"

Case III.—*Retro-pharyngeal Abscess.* (Notes by Mr. George P. Moore, Clinical Clerk, and Miss Frances E. Robb, Probationer).—John K., a labourer in a large brewery, aged forty-five, married; admitted on Sunday afternoon, Nov. 13th, 1892, into the observation ward of the Meath Hospital. The patient, a stout, strong, powerfully-built man of intemperate habits, was supposed, before admission to hospital, to be suffering from tonsillitis. Ten years ago the patient had been for three weeks on the surgical landing with violent epistaxis, under Sir Philip Smyly's care. He was then so weak from hæmorrhage—for when his nostrils were plugged the blood came from the ears—that Sir Philip described him to a friend as "the only dead man he had ever seen come to life again."

There was no return of the epistaxis after leaving hospital, and the patient says that he enjoyed perfect health ever since until three weeks ago, when from working in underground damp vaults he was promoted to the hot, draughty copper-room at the Brewery. That night he felt a violent pain between his shoulders, and suddenly lost the power of his arms and hands. He began to cough, and after going to bed a fit of dry retching came on which lasted on and off for 24 hours; he felt his neck begin to swell, breathing and swallowing became difficult, and something like a hard lump in his stomach gave him much pain. A doctor was sent for next morning, who ordered hot linseed-meal poultices to be applied to the throat three times a day, besides doses and gargles, which seemed to do him little or no good, for the dysphagia and dyspnœa increased from day to day, and the patient became excessively weak from lack of nourishment, and was unable to be out of bed. For two days before coming in he was not able to swallow even fluids, the effort always bringing on a fit of coughing which was most exhausting.

Nov. 13th.—The patient was admitted at 4 o'clock this afternoon in a state almost of collapse; so weak that he can hardly stand. Breathing exceedingly difficult, quick and very noisy, like the sound of a water-wheel. Speech indistinct for some time, and afterwards at intervals the voice has

a peculiar nasal tone, caused, no doubt, by the posterior wall of the pharynx being pushed forwards against the posterior nares. For it is evident that there is an internal swelling besides the very visible external one which can be seen fluctuating. Any attempt at swallowing brings on coughing, and whatever has been taken into the mouth is only expelled again.

The patient feels very cold, and the extremities are icy; pulse very weak, at times it can hardly be felt at all. When hot jars had been applied to the feet, extra blankets put on the bed, a bronchitis kettle started, and the patient had had hot water to hold in his mouth, and an inhalation of carbolic acid and glycerine, he felt rather better, and fell into a short uneasy sleep. He afterwards managed to get down a few drops of beef-juice and a few drops of wine. The ensuing night was very disturbed, and the dread of being choked seemed to be ever present with the patient, who is exceedingly nervous about himself.

November 14th.—On visiting the patient for the first time this morning I was much struck by his appearance. In the first place, there was extreme dyspnœa; the breathing being laboured, noisy, and stertorous; the man's aspect was wild and anxious; his face was congested and livid; beads of perspiration constantly broke out on his forehead; the lower part of the face and neck was thrust forward—the sterno-mastoids standing out like great cords; under the jaws the neck was swollen at both sides. The man articulated plainly, although the voice was hoarse. When I looked into the mouth I saw a state of things which was perfectly novel to me. The tonsils were not very large, but they and the pillars of the fauces, the velum palati, the uvula, and even the tongue, were all pushed forward by the projecting posterior pharyngeal wall. So much did it encroach upon the back parts of the mouth, that it seemed to be continuous with the velum palati, obliterating the passage to the posterior nares. The patient could barely swallow, and seemed in momentary danger of suffocation. I made up my mind that we had to deal neither with tonsillitis nor with œdema of the glottis, as had been suggested, but with a vast retro-pharyngeal abscess. I also felt that the condition of the patient was so critical that not a moment was to be lost, and that in prompt remedial measures his only chance of safety lay. Accordingly, I at once sent for Mr. Ormsby, who happened to be the surgeon on duty, and who was fortunately in the hospital at the time. He was immediately in attendance, and on hearing the facts of the case, and having examined the man's mouth, he made the patient sit up in bed, and with a guarded knife incised the posterior wall of the pharynx in a vertical direction on each side of the uvula (which was actually in apposition with it) to the extent of half an inch. A gush of blood and pus took place into the mouth, followed by instant relief to the more urgent symptoms. I shall never forget the scene. Quantities of thick sanguineous pus poured from the man's

mouth and nostrils; he began to draw deep breaths, which were ever and anon interrupted by fits of coughing, causing the pus and blood to splutter in all directions. Unable to utter more than the one word "Saved," the man grasped Mr. Ormsby's hand with a look of intense gratitude. Water was brought to him to rinse out his mouth, when, to our great disgust and even fear for the consequences, he swallowed it in deep gulps. Remonstrated with for doing so, he exclaimed, "O! sir, if you only knew what it is to be able to drink!" After the operation free venous hæmorrhage occurred, but it was checked by the hazeline spray and local douching with turpentine on pledgets of wool. The man was able to take "slops" freely during the day, and he slept well the following night. He continued steadily to improve. Beginning with "slops," he was soon able to eat bread soaked in water or milk or broth, egg-puddings, and in a few days meat. Pus continued to be coughed up for several days, but in daily diminishing quantity.

November 21st.—On the afternoon of this day the patient had a slight rigor, after which his temperature rose to 103·6°. Dyspnœa and dysphagia came on again, but less severely than at first. The man passed into a state almost of terror, and thought he was going to die. Two 5-grain doses of quinine were given through the ensuing night, and Mr. Alfred Power, the House Surgeon, at midnight made incisions in the throat where Surgeon Ormsby had made them before, and instant relief followed. The application of poultices was commenced again, and continued for two days; temperature fell next morning to 98° F. The flow of pus on this occasion was not nearly so copious as before, and stopped much sooner. The patient again improved, and in a few days could eat meat, though he remained in bed and often complained of sharp pain in his lungs, back, and side.

Nov. 28th.—He was moved up to the surgical landing to be under the care of Mr. Ormsby, being a surgical case. He complains of pain in the back, and says it feels weak, but otherwise he is wonderfully well and very bright.

Dec. 3rd.—Slight rigor in the afternoon; temperature in the evening, 103·4°. Complains of his throat, and has much difficulty in swallowing and breathing. Throat poulticed during the night, and hot drinks given freely.

Dec. 4th.—Mr. Ormsby re-opened incisions made before with the same results as on the two former occasions; less pus than before. Poulticing continued for two days, then patient was able to eat meat again.

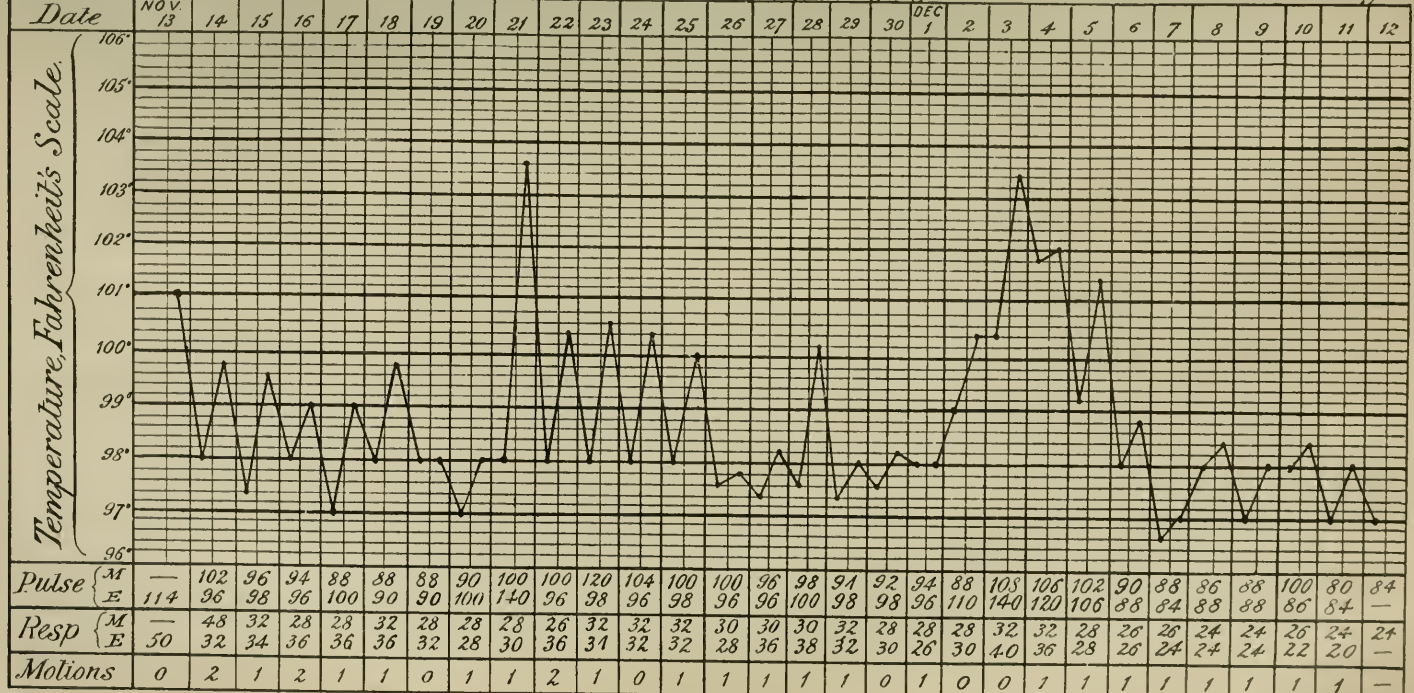
Dec. 13th.—Up to-day for the first time; pain in the back still continues, but he seems better than he has been since coming to hospital.

Dec. 18th.—The patient left hospital on this day, apparently quite well.

Chart No. 3

CLINICAL CHART OF TEMPERATURE

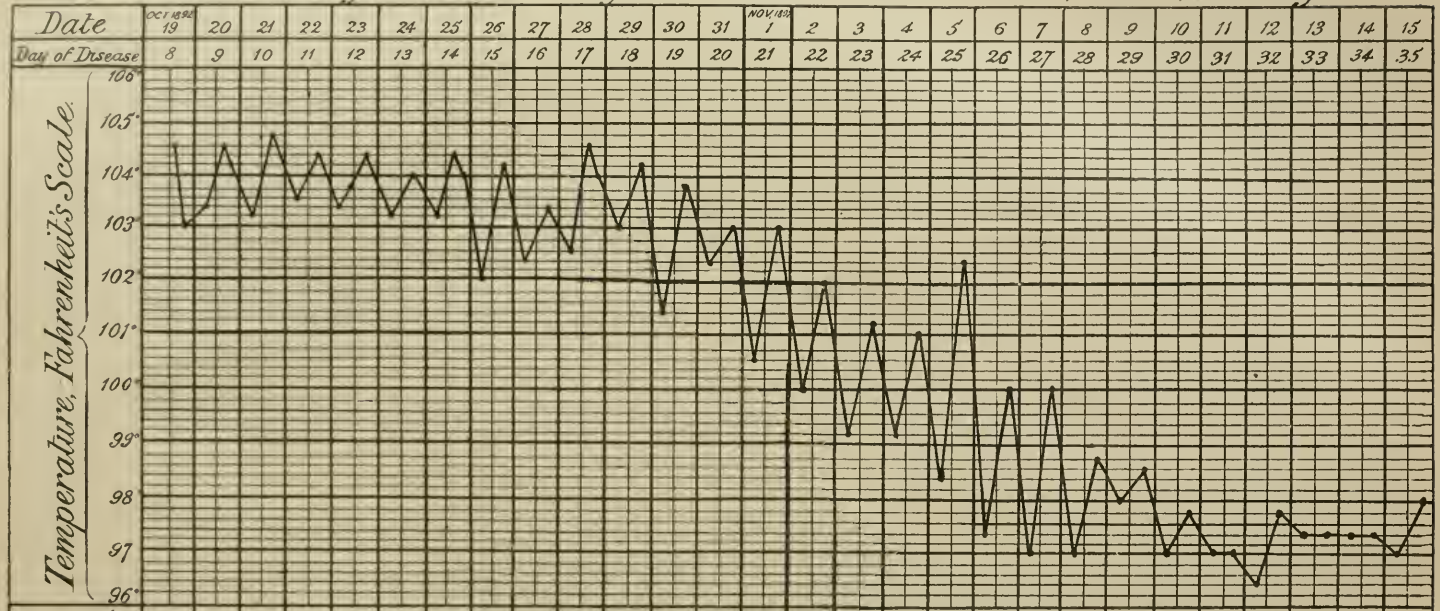
1892. Name, John K—— Age, 45. Disease, Retro-pharyngeal Abscess. Result, Recovery



Chart, No. 4

CLINICAL CHART OF TEMPERATURE

Name, Mary Ann B____ Age, 19, Disease, Enteric Fever, Result, Recovery



Date	OCT. 1892 19	20	21	22	23	24	25	26	27	28	29	30	31	NOV. 1892 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Day of Disease	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Pulse M	—	128	102	100	100	100	102	104	102	104	98	88	86	84	102	100	88	90	88	78	88	84	74	72	74	64	80	80
Pulse E	112	102	112	100	108	120	110	106	104	104	106	108	100	108	106	94	104	94	100	88	86	86	72	71	80	60	60	60
Resp M	—	28	23	24	24	30	26	28	32	32	34	28	26	28	26	28	28	24	24	26	26	24	26	22	20	24	26	20
Resp E	26	20	32	32	31	30	32	28	30	36	30	26	28	30	32	28	28	26	26	24	24	24	21	21	20	20	24	28
Motions	0	3	2	2	2	5	1	2	4	4	5	1	3	1	0	1	0	1	0	0	2	1	0	0	0	0	1	0

Remarks.—The ætiology of the retro-pharyngeal abscess in this instance is not very clear. There was no evidence of spinal caries, and the complete recovery of the patient is against the supposition of any such exciting cause for the attack. The man was admittedly of intemperate habits, and the painful nature of his illness, even from the outset, suggests that the case was really one of erysipelas of the pharynx, followed by diffuse cellulitis and suppuration. The physiognomy of retro-pharyngeal inflammation was well shown in this case. The torturing dyspnœa, complete dysphagia, tilting forwards of the larynx and trachea as well as of the lower half of the face, and the swollen state of the submaxillary regions, and indeed of the neck itself down to the clavicles, made up a diagnostic picture which I can never forget. The signal and instantaneous relief afforded by operation is also indelibly fixed in my memory, and the happy termination of the case is a matter for congratulation.

I should not forget to mention that œdema of the glottis had been suspected before I saw the patient, but the absence of aphonia and the comparatively perfect articulation led me to pronounce positively against such a diagnosis.

Case IV.—*Scarlatina supervening upon Enteric Fever.*—Mary Ann B., aged nineteen, a domestic servant, unmarried, was admitted to the epidemic wards of the Meath Hospital, October 19, 1892, on the ninth day of a normal attack of typhoid fever. The accompanying Temperature Chart (No. 4) admirably shows the course of the fever, which calls for no special comment. She became permanently apyrexial on November 9, the twenty-ninth day of her illness. On Tuesday, November 29th, she went upon two occasions into the ward kitchen. She there met a patient convalescent from scarlatina, but still desquamating slightly, and remained in the room with the same for some 15 minutes. The day following she sickened, feeling unwell for the first time at 12 o'clock noon. Her symptoms were—headache, pain in the pit of the stomach, malaise, and sore throat. Next morning (the third day, inclusive, after exposure to infection), the rash of scarlatina had already overrun the greater part of the body. The attack proved a mild one, except that there was a very marked secondary infection of the cervical glands, which caused an equally pronounced secondary fever. This is well shown in Temperature Chart No. 5. It is interesting to note that the glandular swellings, which were most prominent on the left side of the neck where an attack of diffuse cellulitis was apparently impending, yielded readily and at once to the diligent application of ice poultices.

Remarks.—My object in bringing forward this case is to draw attention to—first, the increased predisposition to one infectious disease which the presence of another causes; secondly, the shortness of the periods of both incubation and invasion in scarlatina under such circumstances. It would seem as if the mucous membranes and glands had lost their power of resisting the invasion of pathogenic micro-organisms in the later stages of enteric fever. One may regard the infecting process under such conditions to be one of inoculation rather than of ordinary infection.

Case V.—*Pulmonary Emphysema—Aortic Valve Disease—Aortic Aneurysm bursting into the Pericardium.* (From notes by Mr. George P. Moore, Clinical Clerk, and Mr. Charles E. Hodgson, Case-taker.)—The last case of the present series is that of a shoemaker, David R. by name, a widower, aged sixty-two years, who was admitted into ward 12 of the Meath Hospital under my care on October 14th, 1892. The patient was a native of the Co. Kildare. He had worked constantly at his trade for forty-four years. His family history calls for no remark. He admitted that he had been of very intemperate habits up to some four years ago, when he was *obliged* to give up drinking—at all events to excess—owing to impaired health. Very little liquor would then intoxicate him, and also cause nausea. There was no history of rheumatism or of syphilis, and the man assured us that he had enjoyed good health up to some five winters ago, when he began to suffer from difficulty in breathing. This symptom subsided or disappeared in summer to return in each succeeding winter season. About six months ago he became subject to attacks of pain of a gnawing character across the front of the chest. Three weeks before admission he observed "a lump" over the upper part of the right side of his chest near the breast-bone. This lump produced a throbbing feeling when he placed his hand over it. Shortly afterwards he consulted Dr. John A. Johns, who advised him to enter hospital.

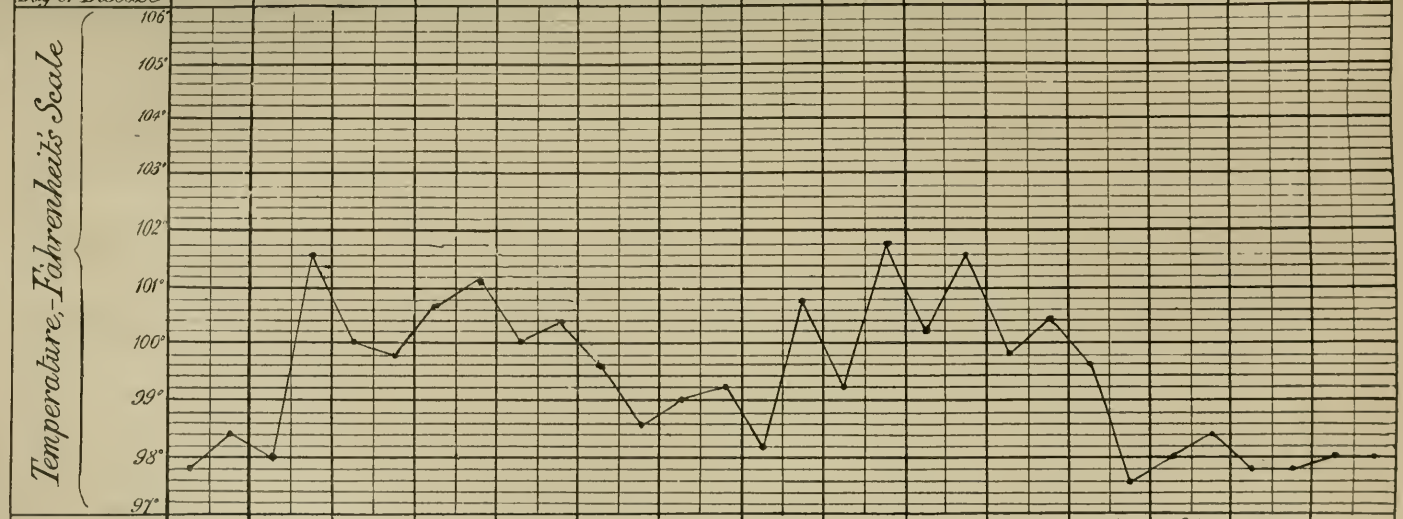
On admission the patient's chief complaint was of difficulty of breathing. Expiration was much prolonged. The thorax appeared full, almost barrel-shaped, with rigid sides. The percussion note was hyper-resonant over the infra-mammary regions, so that a diagnosis of emphysema of the lungs was made. But this was not all, for on proceeding to examine into the state of the circulation a further diagnosis of aortic regurgitation became easy. Thus, a well-marked diastolic murmur was heard down the sternum, taking the place of the aortic second sound; there was also a less distinct systolic murmur, which was carried into the carotids and subclavians. There was a collapsing pulse at the wrists, and in the carotids the presence of visible pulsation could be recognised, although it was not pronounced. The usual depression in the sternum incidental to his occupation of shoemaker was very noticeable. In the second right

Chart, No. 5.

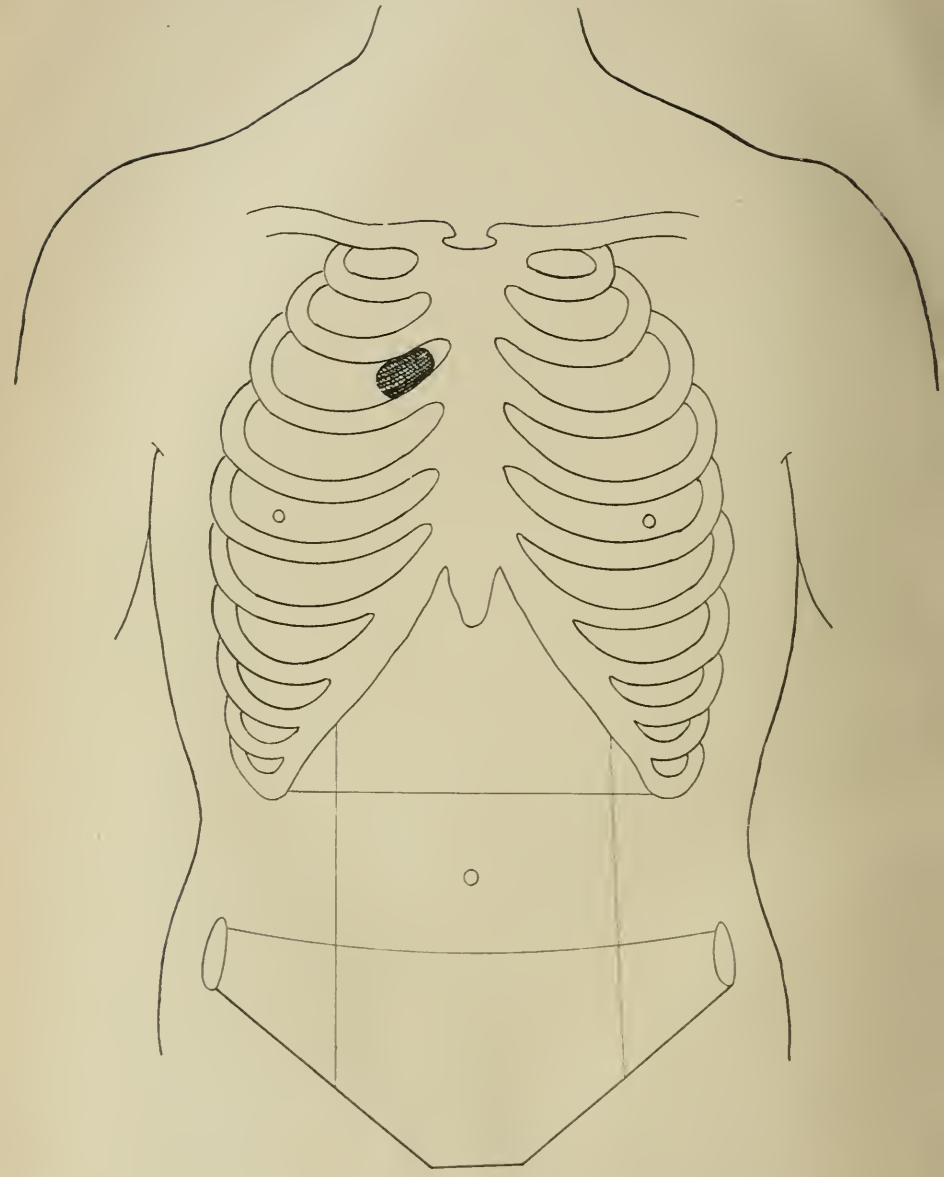
CLINICAL CHART OF TEMPERATURE.

Name, Mary A. B Age, 19. Disease, Scarlet Fever. Result, Recovery.

Date	NOV. 1892 29	30	DEC 1	2	3	4	5	6	7	8	9	10	11	12	13
Day of Disease	I	II	III	IV	V	VI	VII	VIII	IX	X	Xi	XII	XIII	XIV	XV
Pulse. M	80	80	110	120	110	96	96	99	108	104	96	76	80	76	80
Pulse. E	76	104	120	116	104	100	104	112	110	112	100	80	88	80	80
Resp. M	20	20	24	24	24	24	24	22	22	22	20	20	24	20	20
Resp. E	20	24	28	26	26	24	26	24	24	28	24	28	26	20	20
Motions	1	0	0	0	1	0	0	0	1	0	0	1	0	0	2



DAVID R



interspace a fulness was observed, corresponding to an area of dulness on percussion which was about 2 inches in diameter. This is represented in the Plate. A distinct throbbing was both seen and felt in the same place, so that a diagnosis of aneurysm of the ascending portion of the thoracic aorta was in the third place arrived at. Soon after admission the aneurysmal pain became very intense. It was relieved by occasional leeching and the administration of opiates at night. After two weeks stay in hospital an attack of cystitis occurred. It was attended by abundant deposits of pus in the urine, but soon yielded to treatment—a mixture of benzoate of sodium, nux vomica, and infusion of buchu quickly clearing the urine. Albuminuria, however, persisted, being due rather to cardiac failure than to nephritis. On November 20th, Esbach's albuminimeter gave 1·75 grammes of albumen per litre, the amount rising to 2 grammes per litre on November 26th.

The patient continued fairly well until a week before Christmas, when sleeplessness and pain began to tell on his strength. Eczema appeared on the backs of the hands and on the forearms. The bitter cold of Christmas killed him, as on December 28th after taking a cupful of beef-tea, about 12 noon he lay down as if to sleep, and was found in this position dead about half an hour afterwards.

The *post-mortem* examination was made on the following day. The right pleura was in places much thickened and adherent. The upper lobe of the right lung was largely collapsed and airless. Extreme emphysema existed along the inferior margins of both lungs.

The pericardium was full of blood, which had poured into this sac from an irregular rent in the wall of a sacculated aneurysm of the ascending aorta. Anterior to this a large false aneurysm was found. The entire length of the thoracic aorta was in a state of advanced atheromatous degeneration, with calcareous plates here and there. Bead-like atheromatous projections also existed on and near the aortic valves, which were both obstructed and manifestly incompetent. Notwithstanding this, the heart was neither hypertrophied nor dilated.

Remarks.—I have already, during the present Session, laid before the Pathological Section of the Academy a case of fatal rupture of a thoracic aneurysm into the left lung and pleura. In the present instance, rupture took place into the pericardium and the man died—not, as in the former case, of hæmorrhage, but from stoppage of the heart through the pressure of the effused blood.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Census of Ireland, 1891. Part II. General Report, with Illustrative Maps and Diagrams, Tables, and Appendix. Dublin: Alexander Thom & Co. 1892. Quarto. Pp. 587.

We have to congratulate the Census Commissioners, Dr. T. W. Grimshaw, Registrar-General, Dr. T. J. Bellingham Brady, and Mr. Robert E. Matheson, on the publication of their General Report on the Census of the population of Ireland taken on the night of the 5th of April, 1891, under the provisions of the Census (Ireland) Act, 53 & 54 Vic., cap. 46—the eighth complete Census of Ireland.

The warrant appointing the Census Commission was received by the Registrar-General on November 29, 1890. The Commissioners held their first meeting on December 19, 1890, and continued to meet at intervals afterwards, as the nature of the work required.

The country was apportioned into 210 "enumeration districts," each of which was placed under the supervision of a District Inspector of the Royal Irish Constabulary, or an officer of the Dublin Metropolitan Police, to whom the duty of superintending the taking of the Census was assigned. The Superintendents of Enumeration comprised 204 officers of the Royal Irish Constabulary, and 6 officers of the Dublin Metropolitan Police. Each Superintendent had under his control a certain number of enumerators, amounting altogether to 4,156—viz., 4,006 members of the Royal Irish Constabulary, and 150 of the Dublin Metropolitan Police. This organisation worked successfully.

All the necessary forms and instructions were issued before the 16th of March. The distribution of the forms began on this day, and was completed on the 4th of April, the eve of the Census Day, when his Excellency the Lord Lieutenant (the Earl, now the Marquis, of Zetland) inspected the Census Office, and expressed

his approval of the arrangements which had been made for the taking of the Census.

The collection of the returns began on the 6th of April, and on completing it for his district each enumerator proceeded to summarise the results.

During the progress of the enumeration an unexpected difficulty arose owing to an outbreak of smallpox in the North of Ireland. This necessitated the taking of special measures for the prevention of the spread of infection to the persons engaged in dealing with the forms, both within and without the Census Office. The Registrar-General, having consulted with the Medical Commissioner of the Local Government Board, the Secretary of the General Post Office, the authorities of her Majesty's Stationery Office, and the Department of Public Works, made arrangements for the erection of a disinfecting apparatus in the Census Office. With the view also of preventing the spread of smallpox, or any other infective disease, by means of the Census papers, the Commissioners arranged to have returns from every house in which there was a case of such disease, enclosed in specially prepared double sets of impervious covers, and forwarded immediately to the Census Office, where they were at once put through the process of disinfection. We are happy to state that these precautions proved effectual, and that no case of infectious disease occurred amongst the staff during the progress of the work.

The clerical staff of the Census Office, originally estimated for, consisted of 100 male and 10 female clerks, and 100 boy copyists. The maximal number of male clerks employed was 80, so that the total indoor office staff was 190. In addition to these there were 25 males and 25 females employed as "task workers," exclusive of some members of the staff of the General Register Office.

On the 28th of May, 1891, the Commissioners were in a position to forward to the Government, for presentation to Parliament, their "Preliminary Report," with an abstract of the enumerators' summaries. On the 15th of September following, the Commissioners submitted to his Excellency the Lord Lieutenant the first of a series of "County Books," containing the detailed Tables for the County of Carlow. At brief intervals subsequently they submitted the corresponding books for the other Counties and the Provincial Summaries.

In the fore-front of their General Report the Commissioners present a concise summary of the principal results of the Census

of 1891, from which we cull the following information as likely to be of interest to our readers.

The population of Ireland in 1891, including the navy and military serving in this country, was 4,704,750 (2,318,953 males and 2,385,797 females). In 1881 it had been 5,174,836 (2,533,277 males and 2,641,559 females). There was, therefore, in the ten years a decrease of 470,086 persons, or 9·08 per cent. The number of the navy and military serving in Ireland in 1881 was 26,055, and in 1891 it was 25,725.

There is a marked diminution, amounting to 15·7 per cent., in the number of children under 15 years of age in 1891 compared with 1881. There is also a decrease in the number of persons in the age periods from 20 to 30 and from 30 to 40, amounting to 5·5 and 8·4 per cent. respectively.

As regards *birth-places*, it is interesting to note that the numbers of both British and foreign residents in Ireland show a marked increase in the ten years. In 1881 the number of persons born in England, enumerated in Ireland, amounted to 69,382; in 1891 the number was 74,523, being an increase of 5,141, or 7·4 per cent. The number of Scotch in Ireland in 1881 was 22,328; in 1891, 27,323, or an increase of no less than 22·4 per cent. The number of persons born outside of the United Kingdom who were in Ireland on the Census night in 1881 was 19,792, and in 1891 21,521, being an increase of 9·2 per cent. The number of foreigners in Ireland in 1891 was 12,900—an increase of 1,690 compared with 1881 (11,210). The principal feature in connection with this point is the large immigration of Russian Jews during the latter part of the decade.

From the foregoing figures it is evident that, while the native-born Irish are rapidly diminishing in numbers, there is a steady increase in immigration from the sister island of Great Britain, and also from abroad. This is a matter which should engage the attention of both politicians and political economists, particularly at the present juncture in the history of the United Kingdom.

A cognate subject is *language*. The number of persons returned as speaking Irish only in 1891 was 38,197, or 0·81 per cent. In 1881 the number so returned was 64,067, or 1·24 per cent. The persons who could speak "English and Irish" in 1891 amounted to 642,053, or 13·6 per cent. In 1881 they were as many as 885,765, or 17·1 per cent. From these figures it appears that Irish, or Erse, is rapidly becoming a "dead language"—not even

one in every hundred of the population now uses his "native tongue" exclusively, while 86 out of every 100 do not use it at all.

A pleasant feature in the Census statistics is the spread of education on the one hand, and the diminution of pauperism on the other. In 1891 the number of persons in Ireland five years old and upwards who were wholly illiterate was 18·4 per cent. of the population—no doubt a large proportion. In 1881, however, the corresponding percentage was 25·2. Therefore, there was a satisfactory falling off in illiteracy to the extent of 6·8 per cent. in the decade. In 1891 there were 9,177 establishments for primary instruction, attended by 685,074 pupils. The corresponding numbers in 1881 had been 9,151 establishments, and 675,036 pupils. The increase in the number of pupils in the decade was 10,038, or 1·5 per cent. As regards "superior schools," the results were much more satisfactory. While the number of such schools diminished from 504 in 1881 to 490 in 1891, the students attending them increased from 24,693 in 1881 to 27,769 in 1891—that is, by 12·5 per cent. in the ten years.

Pari passu with the progress of education, we observe signs of amelioration in the condition of the people as to housing and prosperity. In the first place, the number of paupers in the workhouses of Ireland on Census Night in 1891 was 42,348, being 13,482, or 24 per cent., under the number in 1881. It will be remembered that the decrease of population in the decade was 9 per cent. The number of persons in receipt of out-door relief in Ireland at the date of the Census of 1891 was 62,988. The corresponding number in 1881 was 64,233. These figures are not so satisfactory as the others. The rateable valuation of the country rose from £13,812,363 4s. 9d. in 1881 to £14,034,681 1s. 9d. in 1891—a substantial advance of 1·6 per cent. Again, while the total number of inhabited houses decreased by 4·8 per cent. between 1881 and 1891, houses of the first class increased by 6·0 per cent., and those of the second class by 10·5 per cent. On the other hand, houses of the third class decreased by 18·7 per cent., and "fourth class houses" (that is, mud cabins) by not less than 49·3 per cent.

The material wealth of the people in "live stock" has advanced by leaps and bounds. In 1891 the number of live stock was as follows:—Horses and mules, 621,479; asses, 216,268; cattle, 4,448,516; sheep, 4,722,613; pigs, 1,367,712; goats, 336,337, and poultry, 15,276,128. In 1881 the corresponding numbers were:

Horses and mules, 574,746; asses, 187,143; cattle, 3,956,595; sheep, 3,256,185; pigs, 1,095,830; goats, 266,078, and poultry, 13,972,426.

Less satisfactory are the statistics as to the division of land, which show that in the decade the total extent under crops (including meadow and clover) fell away from 5,195,377 acres to 4,818,381 acres. Woods and plantation similarly fell away from 328,703 to 311,554 acres. On the other hand. the extent of land under grass rose from 10,075,425 acres in 1881 to 10,298,654 acres in 1891: while turf-bog, marsh, barren mountain, roads, fences, &c., represented 4,769,677 acres in 1891, against 4,595,097 in 1881.

With respect to the occupations of the people, we learn that there was an appreciable increase in the percentages of the "Professional Class" (0·71), the "Commercial Class" (0·37), the "Agricultural Class" (0·64), and the "Industrial Class" (0·59), whereas the percentage of the "Domestic Class" (when revised) decreased to the extent of 0·12 during the decade, and that of the "Indefinite" or "Non-productive Class" showed the substantial decrease of 2·36 in the ten years.

The following "Vital Statistics" are interesting. From April 1, 1881, to March 31, 1891, 1,147,321 births were registered, against 1,391,983 in the previous ten years. The registered marriages were 212,256, compared with 245,968 in 1871-1881. The deaths were 879,412, compared with 969,076 in the previous period. During the decade, 1881-1891, not fewer than 768,105 persons emigrated from Ireland—393,744 males and 374,361 females.

The "sick" and "infirm" of all kinds on Census Night, 1891, numbered 66,664, or 1 in 71 of the whole population. Of these 35,722 were temporarily, and 30,942 were permanently, diseased. In 1881, the number of sick and infirm on Census Night was 71,328, or 1 in 73 of the whole population. Of these, 40,090 were temporarily, and 31,238 were permanently, diseased. The malign effect of the epidemic of influenza of 1890-1891 is evident in these figures.

The number of the totally blind in Ireland in 1891 was 5,341. In 1881 the number was 6,111. The deaf and dumb numbered, in 1891, 3,365; in 1881, 3,993. The number tabulated under the heading "Dumb not Deaf" was, in 1881, 1,143; in 1891, 1,099.

The total number of lunatics and idiots returned in 1881 was

18,413, and in 1891 it was 21,188. On Census Night, 1891, there were 14,945 lunatics (7,463 males and 7,482 females), compared with 9,774 (4,857 males and 4,917 females) in 1881. Of the 14,945 lunatics, 893 were at large, 11,265 were in asylums, and 2,787 were in workhouses. The corresponding figures in 1881 were: 943 at large, 7,547 in asylums, and 1,284 in workhouses. On Census Night, 1891, there were 6,243 idiots (3,501 males and 2,742 females), of whom 4,077 were at large, 996 were in asylums, and 1,170 were in workhouses. In 1881, there were 8,639 idiots (4,674 males and 3,965 females). Of these, 4,548 were at large, 1,896 in asylums, and 2,195 in workhouses. It is probable that the apparent large increase in the number of lunatics and corresponding decrease in the number of idiots is in part due to a difference of classification in the original returns.

In the foregoing paragraphs we have included the pith of this most valuable report. The details run to 70 large folio pages. In illustration of their report the Commissioners append four coloured maps and nine coloured diagrams. The first three maps show respectively, by various shades of colouring, the density of population, the state of education, and the quality of house-accommodation in the several counties of Ireland—thus presenting at a glance the position in respect to these points in which each county stands as compared with the others. The fourth map, now included for the first time in a Census Report, shows the average rateable valuation per head of the population for each Poor-Law Union in Ireland in 1891. A comparison between this map and the Land Census Tables, which are given at pages 170 to 319 of this volume—Part II. of the Census—will enable those interested in the subject to form a very fair estimate of the relative economic conditions of the various parts of the country. The diagrams exhibit graphically, by Counties and Provinces, the actual number of acres and the proportion of the acreage under pasture, tillage, &c.; the proportion per cent. of the inhabited houses in each class; the proportion of each religious profession; the proportion of the illiterate five years old and upwards in each religious body; the proportion of the population five years old and upwards who could read and write, read only, and neither read nor write; the proportion per cent. of persons between 5 and 16 years of age attending school and not attending school during the week ending the 30th of May, 1891; the percentage of pupils attending school during certain specified periods of days in the year ended the 31st of

March, 1891; the proportion per 10,000 of the population of lunatics and idiots, the sick at their own homes, the totally blind, and the deaf and dumb. Similar diagrams had been appended to the Report of the Census Commissioners for 1881, so that an accurate comparison is possible. A scale is attached to each section of the diagram, so that not only do the sections collectively present to the eye the relative proportions of the various elements in any given County or Province, but they enable the exact proportion in each to be measured by a glance at the scale.

The variety and magnitude of the work undertaken, and so ably accomplished, by Dr. Grimshaw and his coadjutors, epitomised in this review, may be perceived from the fact that statistics are given in the Report of the Commissioners for over 70,500 separate places or areas, exclusive of small islands. The publications of the Commissioners comprise over 4,700 pages of tables and letter-press treating of the most various topics, several of which are not included amongst the subjects for inquiry in the Census of the other portions of the United Kingdom. The extraction and tabulation of these items, both singly and in combination with others, while it has invested the Irish Census with peculiar interest, has complicated the statistical operations and rendered the work of compiling a Report upon the Census much more intricate. The Commissioners, therefore, justly point out that their labours cannot in consequence be fairly measured by the relative population to be dealt with.

The Commissioners have been enabled to bring their great work to a close at a date unprecedently early in the annals of Irish Census inquiries. The General Report of the Commissioners for 1841 is dated August 14, 1843. The Commission of 1851 issued their General Report on June 28, 1856. The General Report for 1861 bears date September 1, 1864, and that for 1871—when the enlarged scheme for County Publications was first adopted—was issued on September 29, 1875. In 1881, great exertions were made to bring the work to an early termination, and the General Report of the Census of that year is dated September 21, 1882. On the present occasion, the Commissioners succeeded in closing the inquiry at a still earlier date—the General Report now before us being dated June 23, 1892.

The financial results are equally satisfactory. The cost of the office work of the Census of 1891 will not exceed the sum of £14,400, showing a saving as compared with 1881 of £3,300.

The General Report concludes with a graceful acknowledgment on the part of the Commissioners of the services rendered in the taking of the Census by their own superintendents and office-staff, by the heads of various Public Departments, and by the District Inspectors of the Royal Irish Constabulary and the Inspectors of the Dublin Metropolitan Police, who acted most efficiently as Superintendents of Enumeration. Nor are the men of both forces, who performed the duties of enumerators as regards the general population, overlooked in the comprehensive votes of thanks by the Commissioners, which are also extended so as to include the Chief Resident Officers of Public Institutions who, under the provisions of the Census Act, furnished the returns relating to the inmates of their respective establishments.

In an "Addendum" to the General Report, two of the Commissioners, Drs. Grimshaw and Bellingham Brady, take the opportunity of expressing to His Excellency the Lord Lieutenant, "in the strongest terms," their "appreciation of the great ability, untiring energy and admirable tact" displayed by their colleague, Mr. Robert E. Matheson, in the performance of the special duties devolving on him as Secretary to the Commission.

We cordially endorse every word of praise which is thus accorded to Mr. Matheson, but we would ask how it comes that up to the present no public recognition of any kind whatever has been made of the inestimable services rendered to the State and to the people of Ireland by the Registrar-General. Acting as First Census Commissioner, Dr. Grimshaw has now brought to a successful termination a second decennial Census. His far-seeing wisdom, far-reaching philanthropy, and conspicuous ability have secured for him a world-wide reputation. Surely they have also entitled him to a generous acknowledgment on the part of the Commonwealth he has served so long and so well.

The Diagnosis of Diseases of the Heart and Thoracic Aorta. By A. ERNEST SANSOM, M.D., F.R.C.P. Lond.; Physician to the London Hospital; Examiner in Medical Anatomy and the Principles and Practice of Medicine in the Royal College of Physicians of London; Fellow of King's College, London. London: Charles Griffin & Company. 1892. 8vo. Pp. 567.

DR. SANSOM has long been qualifying, as it were, to write a work on Diseases of the Heart and Aorta, which shall be classical. Of

such a work we cordially welcome the first instalment which lies before us. Its manner and its matter lead us to look forward with keen and pleasurable anticipation to the promised appearance of a second section on Treatment, for in the present volume the question of Diagnosis alone is discussed. This statement, however, needs some qualification, for even on the title-page the author is careful to include in the subject-matter of his book "the Pathology which serves for the recognition of morbid states of the organs of circulation." In his preface also he shows that "the art of Diagnosis cannot be taught without the inculcation of an adequate knowledge of Morbid Anatomy and Pathology." Another noticeable feature in the preface is the strong claim he makes for the recognition of the value in regard to the solution of the more intricate problems of cardiac pathology which the use of such instruments of precision as the Sphygmograph and Cardiograph undoubtedly possesses. To this value Dr. Sansom's own pages bear eloquent testimony, more than one hundred and fifty of them in Part III. of the book being devoted to the subject of the sphygmograph and cardiograph in diagnosis.

The volume opens with a brief "Schema," including the headings "Symptoms," "Causes," and "Physical Examination."

The work proper is divided into three parts. Part I., on "Rational Diagnosis," runs to 56 pages and embraces two sections—one on "Symptomatology," the other on "The Previous History of the Patient." In Part II. the great question of "Physical Diagnosis" is fully considered in sections on "Inspection," "Palpation," "Percussion," and "Auscultation." This portion of the work is very comprehensive, running to no less than 330 pages. We have already alluded to Part III. The work concludes with an index of subjects, chiefly prepared by the author's son, Dr. H. A. Sansom.

The volume is well illustrated by numerous drawings and woodcuts. Of these, many are reproduced (with due acknowledgment) from standard works on medicine, pathology, and physiology. In the third part, also, many cardiograms and sphygmograms are introduced. In his preface, Dr. Sansom refers in terms of self-congratulation to a series of outline-charts, with which the book is further illustrated. They are inscribed with the exact positions of the physical signs observed in the different cases detailed in the text. In our opinion these outline-charts are unnecessarily large and clumsy. They all fold over two or three times, and in

consequence the bulk of the volume is considerably increased without any corresponding or compensatory advantage. Nor is the execution of the charts at all artistic—in fact, it is disappointingly rough and crude. Another objection is that the task of reference to a given page is interfered with by the number of these outline-charts, which spoil the look of the volume, while they interrupt the sequence of the paging.

Needless to say that, as regards style, paper, type, and printing, the work has been brought out in a manner which reflects credit upon the publishers.

All those who know Dr. Sansom will be prepared to meet evidences of thoroughness and precision on every page of his book, nor will they be disappointed. From the "Schema" to the Index the language is clear and terse, and the prominent impression left on the reader's mind is that he has met in the author a master of clinical observation and of pathological research.

The arrangement of the second part renders the consecutive study of any given morbid condition of the heart or aorta a matter of some difficulty. Thus, physical signs detected by inspection will be described under that heading, while those discovered by palpation, or percussion, or auscultation may not be mentioned for one hundred or more pages in advance. From this point of view, we may look upon the book rather as a treatise upon physical examination of the heart and aorta than than as a clinical manual. And yet it is certainly the latter also. Even before we approach the more immediate subject-matter of the work, we meet with excellent clinical descriptions of such diseases as exophthalmic goître ("neuro-cardiac disease"), rheumatism, and gout; and the detailed account of each cardiac lesion is distinctly clinical and also pathological.

Coming to details, we regret to find that Dr. Sansom dismisses the subject of "nutmeg-liver" in a few words at page 59. He does not delay even to explain how the pathological condition in question came by its name, or what is the "constant state of venous engorgement" which leads to this organic change in the liver. On the same page (59) he more happily disposes of the physical sign known as "arcus senilis." He "cannot help concluding that a very exaggerated importance has been attached to the diagnostic value of 'arcus senilis.'" He thinks "that, for the most part, this sign, which simply means fibrous change in the cornea, is of little or no diagnostic significance."

Chapter X., on "Cardiac and Neuro-cardiac Dyspnœa and Dropsy," contains an instructive account of the embarrassments of respiration which accompany cardiac disease. We notice the graphic term, "Dyspnœa of Effort," applied to the difficulty of breathing which arises from even slight exertion in cardiac cases. The explanation of "rhythmic dyspnœa" (Cheyne-Stokes' respiration) offered by Dr. Sansom is based on the theories advanced by Traube, Rosenbach, Filehne, and Byrom Bramwell. He considers that "the cause of rhythmic dyspnœa is primarily in the nerve-elements in the medulla oblongata and its neighbourhood; that there are disturbed correlations of the various portions of the nervous mechanism of respiration, on account of complex disturbances of the nerve-structures in this situation; that, once initiated, the rhythmic phenomena usually continue to recur during long periods, or until the death of the patient; and that there is a strong analogy between this affection and Graves' Disease or the Rapid Heart—in the one case the rhythmic respiratory, and in the other the rhythmic cardiac, nerve-mechanism being disturbed" (page 77).

In Chapter XIV. special methods of examination by "Inspection" are described, and the uses of the ophthalmoscope and the laryngoscope in the diagnosis of heart-disease are fully detailed. The author almost goes out of his way to indicate the ocular appearances in anæmia, malaria, albuminuria, syphilis, and septicæmia—all of which morbid states have a more or less direct bearing upon the presence of heart-disease. In insisting upon the importance of a laryngoscopic examination, he points out that, in cases of aneurysm of the thoracic aorta, the signs in connection with the larynx and trachea may be the following—(1), complete paralysis of the left recurrent laryngeal nerve, manifested, as a rule, by more or less complete aphonia; (2), incomplete recurrent paralysis—*i.e.*, of the abductor twigs only; (3), in rare cases paralysis of the left vagus nerve; (4), direct pressure on the trachea (page 115). He adds an instructive instance in which two physicians in London arrived at a probable, or presumptive, diagnosis of aortic aneurysm solely from discovering slight weakness of the left vocal cord in the case of a gentleman who presented very slight and obscure symptoms, and no visible signs, of aneurysm. Death from the rupture of a small aneurysm of the aorta took place six months after the laryngeal signs were first noticed.

While we are on the subject of the larynx we may mention

that a very full and clear account of "tracheal tugging" in aneurysm is given at page 125 under the heading "palpation." This very important sign of aneurysm was first recorded by Surgeon-Major Oliver. As practised by Dr. William Ewart, tracheal tugging is elicited by the observer standing behind the seated patient, whose head is slightly thrown back and steadied against the observer's chest. The tips of both index fingers are then inserted under the lower edge of the cricoid cartilage, which is gently raised by them. If aneurysm exist the pulsation of the aorta will be distinctly felt, transmitted through the trachea to the observer's fingers. If laryngeal distress is present this method of examination will much increase it.

Notwithstanding his eloquent vindication of the utility of sphygmographic tracings for diagnostic purposes, Dr. Sansom (at page 134) expresses the opinion—in which we thoroughly agree—that the signs obtained by careful palpation of all the available arteries on the distal side of a supposed (or suspected) aneurysm are more valuable than those obtained by the sphygmographic exploration of the two radials. We also fully coincide with the author's recommendation—made in detail at page 133 and reiterated here—that the palpation of the arterial system should be made from the centre to the periphery.

The plan of feeling the pulse which Dr. Sansom adopts is to apply one finger only longitudinally over the artery, the patient's forearm and hand being supported by the observer's left hand, or, if necessary, by the thumb and little finger of the right hand grasping the arm on either side. In this way the vessel is felt over a considerable length of its course by one finger of the observer, and varying degrees of pressure can be applied to it; whilst the skin can be pushed up, and the size of the artery and the state of the arterial coats can be determined.

In connection with auscultation we meet with one of the disappointing surprises of this book, and that is the absolute silence of the author as to the researches of Dr. Stokes on thoracic aneurysm and on fœtal rhythm of the heart, especially in fever. That the classical work of the great Irish physician is not unknown to Dr. Sansom is evident, because at page 355 he alludes to "one of the the greatest authorities, the late Dr. Stokes." But why should not "one of the greatest authorities" be quoted in reference to subjects which received their explanation in the light shed upon them by the brilliancy of his genius? It is humiliating to an

Irish physician to read (at page 204) that "Huchard has employed the term 'embryocardie' to designate a condition in which the pauses between the heart-sounds are of equal length, the effect upon the ear resembling the ticking of a watch. The first and second sounds are exactly alike. There is thus a close resemblance to the rhythm of the fœtal heart. Instances are related in which this sign was of importance in prognosis. In typhoid fever and other acute diseases its manifestation was held to be a sign which portended death. When embryocardia is evidenced—the heart's action being also rapid—it is a sign not only of enfeeblement of the heart, but also of considerable reduction of the normal arterial tension, both of these being factors of the state known as *collapse*."

We notice, in the first place, that in this passage Dr. Sansom speaks of "typhoid fever" as being especially prone to induce "embryocardia," but we all know that it is typhus fever which most affects the heart, and to which Dr. Stokes so long ago as 1841 drew attention in this regard. In his classical work on "The Diseases of the Heart and Aorta" (Dublin: Hodges & Smith, 1854, page 379) Stokes writes as follows:—

"In the next series of cases the signs, though indicative of great weakness, are very different in character. Like the former, they are attended with diminution or loss of impulse; but the disease seems to act more on the entire heart, and we neither observe the predominance of morbid signs on the left, as compared with the right side, nor that of the second over the first sound. In these cases there is no extinction of either sound, but both are diminished in loudness, and become of a nearly similar character. *To this condition I have given the name of the fœtal character, from the close resemblance of the phenomena to those of the heart of the fœtus in utero*—a resemblance which, especially when the pulse is acting at the rate of from 125 to 140, is almost complete."

Dr. Stokes adds (at page 446)—

"This condition, though implying great debility, is not so certain an indication of softening as that in which the first sound is especially diminished or, it may be, lost."

As to thoracic aneurysm, our opinion is that no abler description has ever been penned than the marvellous word-pictures contained in the eleventh chapter of Dr. Stokes' treatise. The fact is that the tendency of the present day is far too much in the direction of forgetting or ignoring the splendid work done by the clinical

teachers of the past—work which, say what men will, bears the same relation to the modern Theory and Practice of Physic that the three-feet walls of an eighteenth century dwellinghouse do to the paper and dado and frieze with which they are overlaid at the close of the nineteenth century.

The foregoing remarks cannot, of course, apply to Part III. of the work before us, even though, in the words of the author, "the idea of making the pulse register its own movements dates from long-past ages; it is said to have occurred to Galileo." It is to Marey that those modern instruments of precision, the sphygmograph and the cardiograph, owe their existence. Were we asked to give two valid instances of the utility of sphygmographic tracings, we would, in the first place, quote Dr. Sansom when he says—"The story which the pulse writes of itself is permanent—*litera scripta manet.*" In the next place, we would refer to the scientific therapeusis of angina pectoris by the nitrites, which was suggested to Dr. Lauder Brunton by the observation that in cases of this exquisitely-painful and most dangerous malady, the arterial tension during an attack is augmented. Dr. Sansom has done full justice to the subject of the sphygmograph and cardiograph in diagnosis, and we have never seen better or clearer reproductions of tracings than in his book. The various names which have been applied to different irregularities of the pulse in volume or in rhythm, particularly by German writers such as Traube, receive an easy explanation in the light of the tracings at pages 464 to 469. For example, the twin-pulse (as Sansom well calls it in preference to Traube's incorrect term, *pulsus bigenimus*), is beautifully illustrated in Fig. 121 on page 465; and so is the alternating pulse (*pulsus alternans* of Traube) in Fig. 123 on page 468.

Chapter LXIV., on "The Cardiograph and its Indications," will be read with special interest, as stress has not hitherto been laid upon the clinical uses of this more elaborate instrument. It is in mitral stenosis especially that cardiograms afford valuable and, to Dr. Sansom's mind, crucial evidence. The characteristic feature of the tracing is an enormous elevation just preceding the ventricular systolic upstroke, which it appears to lift far above the base line. This elevation seems to commence in mid-diastole, when the blood is doubtless urged into the ventricle with force, so as to communicate a shock of tension to the great anterior flap of the mitral valve, which should be audible in the third left inter-

space. The evidence tends to prove "that the so-called reduplication of the second sound which is heard in a large proportion of the cases of mitral stenosis, is in reality mitral in origin and is a sound of tension of the mitral curtains. When this occurs *early* in diastole, as is most common, there seems to be a reduplication of the second sound. When, as in rare instances, it occurs *late* in diastole—*i.e.*, in the presystolic period—the sounds appear like a reduplication of the first sound" (page 517). At the same time Dr. Sansom admits that, in certain cases, the cardiogram in mitral stenosis may differ in no appreciable way from the normal.

There is a strange difference of opinion as regards the characters of the pulse in mitral narrowing and regurgitation respectively. Personally our clinical experience would lead us to agree with Dr. Broadbent when he says:—"The pulse, then, of mitral stenosis is regular; its other characters are that it is small, long, and extinguishable by moderate pressure: it could not justly be termed a weak pulse." And, again, of the pulse of mitral regurgitation—"this may almost be said to be the one irregular pulse of valvular disease." Dr. Sansom's sphygmographic investigations have led him to a totally diverse opinion. He has found "that in a large number of cases of mitral stenosis a notable irregularity is the distinguishing mark of the sphygmographic tracing, and that this is rendered evident in very early stages of the disease, even where there may be no sign of cardiac discomfort whatever." And again—"Irregularity is, according to my experience, the most frequent and the most marked characteristic of the pulse-tracings in mitral tenosis" (page 528). Speaking of Dr. Broadbent's statements as to the irregularity of the pulse in mitral insufficiency, Dr. Sansom observes, at page 537—"These views are contrary to my own experience. In compensated mitral regurgitation I have found the pulse as a general rule regular, corresponding with the regular beats and intervals in the heart-tracings which I have analysed. . . In fact, irregularity of rhythm is far more a characteristic of mitral stenosis than of mitral insufficiency."

It is simply impossible to reconcile these statements with the opinion expressed by Dr. Broadbent, and quoted by the author, that in mitral regurgitation "*no two beats of the pulse are alike, either in strength, or duration, or interval.*" It is but fair to Dr. Sansom to mention that Robert Adams (1827), Hope (1831), and Stokes (1854) all agree that in mitral obstruction the pulse is often irregular, small and indistinct, when compared with the

cardiac impulse, rapid, but, perhaps apparently, not so frequent as the heart-beat.

To do full justice to a work like that before us is not easy within the limits of a review. We have endeavoured, notwithstanding, to direct attention to a few of the many interesting features of the book. We look upon it as a rich and valuable contribution to the bibliography of heart-diseases, and we eagerly await the promised appearance of its companion volume on the treatment of these affections, so painfully interesting in their origin, recognition, and course, and often, alas! so tragic in their ending.

Syphilis, and the Nervous System: being a Revised Reprint of the Lettsomian Lectures for 1890, *delivered before the Medical Society of London.* By W. R. GOWERS, M.D., F.R.C.P., F.R.S.; Consulting Physician to University College Hospital, &c. London: J. & A. Churchill. 1892. Pp. 131.

WE are glad to see that the interest which these lectures excited, and the necessity which is laid upon their author of frequently referring to them, have, even at this late date, induced him to publish them in book form. They have already been twice published in foreign languages, and it was time that the British medical public should have them in a permanent form easy to refer to.

These three lectures are by no means an account of the various syphilitic affections of the nervous system, with symptoms, treatment, &c., such as we are familiar with in other works on the subject; they are rather a philosophical treatise on the nature of the effects which syphilis produces in nervous structures, these effects being divided into specific and non-specific—the former being those lesions which are invariably caused by syphilis, and by nothing else, and the latter, lesions that are sometimes due to syphilis, and sometimes to some other cause. To the first class belong gummata, syphilitic disease of arteries, some forms of meningitis, and possibly a few other very rare lesions; while in the second class we find a form of disseminated subacute myelitis, a form of multiple inflammation of the spinal roots, and some forms of sclerosis of the brain cortex. With regard to the question of the relation of syphilis to the degenerative processes in the nervous system, Dr. Gowers discusses carefully, and at length, the conditions under

which it is possible to draw information from statistics, and shows scientifically how syphilis and tabes must have some relation. With regard to the exact connection between syphilis and these degenerative processes, Dr. Gowers adopts Strümpell's theory that they are due to a toxic agent produced by the syphilis organisms, and left behind by them in the system.

The second lecture deals mostly with the diagnosis of syphilitic disease such as gummata, arterial disease, &c. This lecture, so to speak, contains more practical "tips" than the other two; while the third lecture treats mainly of prognosis. It is in this that is found the view about which so much controversy has gathered—viz., that syphilis is an incurable disease—an opinion which, in spite of all opposition, Dr. Gowers still holds,; "it is literally correct to say that we have no evidence that syphilis ever is, or ever has been cured." The last part of this lecture treats of the relative value of mercury and iodide of potassium in late syphilitic lesions. The anthor has observed some cases in which the latter drug was useless, while the former caused rapid improvement.

These lectures are most suggestive, and will well repay perusal.

Clinical Diagnosis: the Bacteriological, Chemical, and Microscopical Evidence of Disease. By Dr. Rudolf v. Jaksch, Professor of Special Pathology and Therapeutics, and Director of the Medical Clinic, in the German University of Prague. Translated from the Third German Edition and enlarged by James Cagney, M.A., M.D., Member of the Royal College of Physicians of London; Physician to the Hospital for Epilepsy and Paralysis, Regent's Park; late Demonstrator of Anatomy, St. Mary's Hospital Medical School. With numerous illustrations (partly in colours). London: Charles Griffin & Co. 1893. 8vo. Pp. 460.

In July, 1890, it was our grateful task to write in terms of approbation of the first English edition of Dr. von Jaksch's "Clinical Diagnosis." We described it as a work "which has already become classical in Germany, and which is destined to earn a great reputation in English-speaking countries also." The forecast embodied in these last words has been fulfilled, and we heartily welcome the appearance of a second English edition within three years of the publication of the first.

There are some notable changes in the present issue. In the first place, it is translated from the third German edition, which was brought up to date by Prof. von Jaksch. Next, Dr. Cagney has again, as in the first edition, and with the approval of the author, introduced a good deal of new and original matter, for which he undertakes the sole responsibility. This new matter is in every case distinguished by being enclosed within square brackets. Thirdly, it will be remembered that the former English edition ended with an appendix contributed by Dr. William Stirling, Brackenbury Professor of Physiology and Histology in the Owens College, and Professor in the Victoria University, Manchester. In the present edition Dr. Stirling's contributions have been incorporated in the text, and the appendix disappears. The book now runs to 460 pages, as compared with 398 in the previous edition.

In Chapter I., on the Blood, the chief additions are: a full description of Hedin's hæmatocrite, an instrument which enables one readily to estimate the volume of the red blood corpuscles; a reference (at page 30) to the case of undoubted myelogenic leukæmia described by Dr. Wallace Beatty in 1891; an account of anæmia infantum pseudo-leukæmica, so-called by the author in communications made in 1889 and 1890; and an interesting note (at page 38) on changes in the formed elements of the blood after hæmorrhage and in infectious diseases (secondary anæmia). The most important change in this chapter, however, is the omission of the parasites of malaria from the list of vegetable parasites invading the blood, and the addition of a full description of them under the heading of "Animal Parasites (*Hæmatozoa*)," at p. 49 *et seq.* "Under this heading" (Protozoa), observes the author, "are to be described the micro-organisms of malaria—parasites of very great interest, which occur in the two principal varieties of *Hæmamœba malariæ* and *Laverania malariæ*."

In Section VI. of this same chapter on the blood, paragraph 4, on uric acid and xanthin-substances, has been much expanded; and the same remark applies to paragraph 5, which is now headed "Carbo-hydrates," and is subdivided into three parts, on grape-sugar, glycogen, and cellulose, respectively. This excellent chapter concludes with a note on Hammerschlag's method of quickly determining the specific gravity of the blood by placing a drop of it in a mixture of chloroform and benzol,

two liquids of widely differing specific gravity, but which are freely miscible. Chloroform or benzol is alternately added, so that the density of the mixture is constantly changed, until at last the drop of blood remains suspended in it. When this point is reached, the specific gravity of the liquid is ascertained in the usual way. That of the blood is of course the same.

The foregoing analysis of one chapter as it appears in the two editions will suffice to show that this work on Clinical Diagnosis has been kept thoroughly up to date. Its manner and its matter are alike admirable, and we heartily recommend it as a safe guide to the modern aids to diagnosis.

A Pocket Medical Dictionary, giving the Pronunciation and Definition of about 12,000 *Words used in Medicine and the Collateral Sciences.* By G. M. Gould, M.D., Ophthalmic Surgeon, Philadelphia Hospital. London: H. K. Lewis. 1892. Pp. 317.

This dictionary is exceedingly nicely printed and got up generally. It is intended to fit the pocket, so that the practitioner may readily consult it when he comes to a term he does not understand. For this purpose its shape and size make it exactly suited. With regard to its contents, it appears to us much the same as most other medicial dictionaries. Some words which we should have expected are omitted—*e.g.*, coceidium. Some pronunciations are wrong—*e.g.*, angīna. Some definitions are incorrect—gynæcology is defined as "*a treatise* on the diseases of women." Gray matter is "the cortical substance of the brain" (we fear Dr. Gould's studies in the anatomy of the nervous system were not deep or successful if this is the only "gray matter" he knows of). We should have thought that most medical men knew that "serious" meant "grave." However, if any one wishes to buy this dictionary, we have no objection.

The Calendar of the Royal Veterinary College for 1892. London: 1892. Pp. 138.

This is the first Calendar issued by the Royal Veterinary College, and has the Charters, all the arrangements for the Session 1892-3, and last Session's Examination Papers. The Calendar is nicely brought out, and appears very complete. The information it contains ought to be of assistance to those who are anxious to see a Veterinary College established in Dublin.

PART III.

SPECIAL REPORTS.

REPORT ON

MATERIA MEDICA AND THERAPEUTICS.[a]

By Walter G. Smith, M.D. Univ. Dubl.; President of the Royal College of Physicians of Ireland; Physician to Sir Patrick Dun's Hospital; Professor of Materia Medica, School of Physic in Ireland, Trin. Coll. Dubl.

A considerable number of new synthetically formed compounds have been proposed within the past year. Many of them are doubtless of ephemeral reputation, and no discovery of first-class importance can be chronicled. The three modern antipyretics, antifebrin (acetanilide), antipyrin (phenazone), and phenacetin, have secured a foremost place. Not only has antipyrin maintained its position as an antipyretic and anodyne since its official recognition, but (as pointed out in *Pharm. Journal*, Jan. 2, 1892) the property possessed by it of combining with many other bodies, especially phenols, probably owing to the CO group contained in it, has led to many experiments in the direction of grafting with it other remedies. Among the earliest of these combinations may be mentioned the compound or compounds of antipyrin with chloral hydrate, one of which has now, however, taken its place in medicine under the name "hypnal." A compound of iodine with antipyrin has been described as "iodpyrin," but, like many of the other "pyrin" compounds mentioned, has yet to make its reputation in medicine. On the other hand, phenacetin is said to form an iodine compound—"iodphenin"—containing 50 per cent. of iodine, two-thirds of which is very loosely combined, to which the extraordinary bactericidal properties attributed to the compound may possibly be due. But a still more interesting derivative from phenacetin is that which has been called "phenocoll," which is noticed further on.

[a] This Report is based upon an article by the writer in the "Year-Book of Treatment" for 1893.

Among antiseptics, aristol—a loosely bound combination of iodine with thymol—has increased in reputation, and has been the subject of a considerable amount of literature, although it would appear probable that a really pure and definite dithymol-iodide would be too stable to be fully effective as ordinarily used. The acceptance accorded to aristol has led to suggestions of similar compounds, among which is one that has been named "europhen," which is represented as being a product of the action of iodine upon isobutyl-orthocresol. It is said to contain 27·6 per cent. of iodine, and to present the advantage of being comparatively free from odour, non-toxic, and very light. Another addition to the same class is iodo-β-naphthol, described as odourless, tasteless, and insoluble. Benzoyl-β-naphthol has also been recommended as an advantageous intestinal antiseptic, and styracol, the cinnamic acid ester of guaiacol, as well as benzoyl-eugenol and cinnamyl-eugenol, are under trial as internal remedies in tuberculosis.

The therapeutics of tuberculosis still wait for the master hand, and as yet no definite verdict can be given upon its treatment by either (*a*) bacillary cultures (tuberculin: tuberculocidin); or (*b*) chemical antidotes (guaiacol: benzosol; potassium cantharidate, cocaïn cantharidate, &c.).

ANÆSTHETICS.

Chloroform.—The questions which have recently been raised as to the relative purity of different kinds of chloroform, and the influence of possible impurities upon the safety of the induction of anæsthesia, have received considerable attention.

Dr. Biltz has lately published a monograph dealing with this subject, and his observations are of practical importance.

Dr. Biltz regards it as an established fact that the decomposition to which chloroform is liable does not result from the presence of certain impurities, as has been assumed, but that it is a natural characteristic of chloroform. The purer chloroform is, and the greater its freedom from alcohol, the more readily and the more rapidly does it undergo decomposition when exposed to light in vessels of white glass containing air. It is to this decomposition that is to be ascribed the danger attending the use of chloroform for medicinal purposes. The decomposition is brought about by atmospheric oxygen displacing, under the influence of light, a portion of the chlorine, while at the same time there is a formation of phosgene gas and water.

The protection afforded by the presence of alcohol, however, is but limited. The joint action of air and light still causes decomposition, but while alcohol is present it takes up the prejudicial products of decomposition, forming with them products which are harmless, and even suitable for producing anæsthesia. When the alcohol has been exhausted in this way the liberation of chlorine and the formation of phosgene gas are no longer counteracted. The time that may elapse before this decomposition commences is dependent upon the intensity of the light to which the chloroform is exposed, also to some extent upon the quantity of air with which it is in contact. Consequently in diffused daylight the alteration is more rapid in summer than in winter, and it is still more rapid in direct sunshine. In the latter case chloroform absolutely free from alcohol will be decomposed within one or two hours in summer time, and in diffused daylight within one day, while in winter it may take ten days, according to the clearness of the atmosphere. In regard to the protection afforded by alcohol, Biltz finds that with 1 part of alcohol in 400 decomposition is prevented only for a few weeks or months. With double that proportion the preventive effect lasts for eleven months, and with 1 per cent. it continues much more than a year. He is of opinion that all the statements made as to the keeping quality of certain kinds of chloroform point only to the circumstance of failure to detect the presence of alcohol to which the permanence of the chloroform was due. It will be remembered that a new method of refining chloroform has been introduced by M. Pictet. His process mainly consists in subjecting chloroform to intense cold, by which it is caused to crystallise, and the crystals when separated and liquefied furnish absolutely pure chloroform.

Biltz finds that Pictet's chloroform is one of the best, if not the best, to be met with. But Schacht and Biltz demonstrated to the Berlin Pharmaceutical Society, that the Pictet chloroform undergoes decomposition precisely in the same way and at the same rate as ordinary chloroform, and that the precautions of adding alcohol and keeping in the dark are as indispensable in the one case as in the other.—(*Pharm. Journal*, June 18, 1892, from *Pharm. Centralhalle.*)

Dr. R. du Bois-Reymond has investigated the physiological action of Pictet's purified chloroform, and of the residue containing the impurities. He found that the latter diminished blood-pressure, and reduced the heart's beat in a marked degree (*Brit.*

Med. Journal, Jan. 30, 1892). Drs. Charteris and MacLennan have examined six different brands of chloroform, and conclude that different chloroforms exhibit a very evident diversity of action. Some sorts caused tremors (in guinea-pigs), and some varieties did not (*Brit. Med. Journal*, March 26, 1892). These inquiries are of considerable interest, even although they do not bring us much further than we were.

Local Anæsthesia.—Schleich, in order to avoid all possible danger of intoxication from cocaïn, recommends what he terms the "infiltration method." This consists in multiple injections, over a small area, of a very dilute ($\frac{1}{5}$ per cent.) solution of cocaïn. It has been long known that hypodermic injections of pure water can induce slight local anæsthesia, acting on the tissues as a chemically different body, for "physiological solutions" of salt or sugar have no such effect. The maximal dose of cocaïn thus administered would be about $\frac{1}{2}$ grain. By the aid only of $\frac{1}{5}$ per cent. cocaïn solution, combined with ether-spray, the author has carried out 224 operations, including five laparotomies. Gluck and Oppenheimer confirm Schleich's results, and the latter testified that he had himself undergone an operation for sloughing whitlow of the thumb, involving scraping out the bone and cauterisation with zinc chloride, without the least pain, under Schleich's method.—(*Therap. Monatsh.*, Jan., 1892.)

Cocaïn.—Bignon draws attention to an important practical point relating to cocaïn. He points out, and the writer can confirm it, that cocaïn in *acid* solutions loses its anodyne power. All mineral acids conceal the anodyne virtue of cocaïn, which, however, is fully restored by neutralisation with sodium carbonate. The maximum anæsthetic effect is obtained when cocaïn is suspended in a feebly alkaline fluid ("cocaïn milk"). The commercial salts of cocaïn are often acid, and Bignon thinks that variations in the acidity of the solution are the chief cause of the differences of opinion as to the dose requisite for local anæsthesia.—(*Therap. Monatsh.*, June, 1892, from *Bull. Gén. de Thér.*)

Dr. Chadbourne, U.S.A., has investigated, in Liebreich's laboratory, a new coca base, which he terms tropa-cocaïn (benzoyl-pseudo-tropeïn). It closely resembles but is not identical in local action with cocaïn. It is less toxic, and its solutions keep better.

Action of Tropacocaïn on the Human Eye.—Professor Schweigger finds that the muriate tropacocaïn causes complete anæsthesia more quickly than cocaïn solution of the same strength. This anæsthesia

does not last as long as that produced by cocaïn, but a drop or two of the solution can be added from time to time, and complete anæsthesia thus kept up as long as is necessary.

Mydriasis was occasionally seen, but only in slight degree. No ischæmia was present; on the contrary, in a few cases there was very slight congestion for a few seconds. No harmful symptoms of any kind were seen, and in most cases tropacocaïn seems to be as good as, in some cases better than, cocaïn. For the extraction of foreign bodies from the eye tropacocaïn is preferable to cocaïn because of its quicker action, and iridectomy has been performed in less than two minutes after one or two drops of a 3 per cent. tropacocaïn solution had been put upon the eye, and without pain being felt by the patient.

Dr. Silex, first assistant of Professor Schweigger, has used tropacocaïn in his practice, and has obtained similar results. He has performed tenotomy in less than half a minute after applying a 3 per cent. tropacocaïn solution, and the operation was painless. In all cases a 3 per cent. solution was used, and whether a weaker solution would give as good or a stronger better results is yet to be proved.

It is to be hoped that tropacocaïn will soon be given a trial in other than ophthalmic work, and for actual use the synthetically prepared hydrochlorate of tropacocaïn is to be recommended.—(*Brit. Med. Journal*, Aug. 20, 1892.)

ANTISEPTICS AND ANTIPYRETICS.

General Remarks.—Of late years great advances have been made in the study of antiseptics. As soon as it was discovered that substances containing the benzene nucleus—such as phenol—possessed germicide properties, chemists at once set to work to test the powers of such bodies to see whether any of them were superior to carbolic acid. As the result of their studies we have a number of new preparations—aseptol, creolin, sozoiodol, lysol, &c.—all of which deserve careful attention. By the action of sulphuric acid on benzene compounds, stable bodies, termed sulphonic acids, can be formed. The formation of sulphonic compounds probably explains the results of Laplace, who found that mixtures of phenol and sulphuric acid were more powerful antiseptics than the parent substance. In making similar experiments Hueppe found that better results were obtained by using crude phenol than with the pure phenol. From this he concluded that the higher

homologues were capable of affording more powerful antiseptics than phenol. Fraenkel fully corroborates this idea, and, in his researches on cresols, found also that addition of sulphuric acid increased their antiseptic power. Metacresylsulphonic acid was found to be the most active compound. Unfortunately, however, these compounds were so irritating and so caustic that their use was very limited, and other methods of using the cresols had to be sought. As a first step soapy emulsions were prepared by treatment with alkalies, and yielded the creolins and the lysol of commerce—all highly alkaline emulsions of the higher coal-tar distillation products, prepared with the aid of a resin soap. These are powerful antiseptics, but all possess the disadvantages of (1) very variable composition; (2) causing instruments and fingers to become slippery by reason of their free alkalinity; (3) becoming oxidised on exposure to the air.

Benzoyl-Guaiacol (Benzosol), a compound of benzoic acid and of guaiacol, the chief active constituent of creasote, is recommended by Dr. F. Walzer as an agreeable and harmless substitute for creasote. Commercial creasote is usually contaminated with cresols, which are very irritating. Benzosol is a colourless crystalline powder, almost tasteless and odourless. It is insoluble in water, and in the digestive tract, chiefly in the small intestines, splits up into guaiacol and benzoic acid.

Dose, 4 to 12 grains, in cachets or pastilles. Guaiacol-carbonate has also been proposed as an unirritating form of administration in tuberculosis. Dose, 3 to 7 grains and upwards.

Dermatol, a commercial name for a basic gallate of bismuth. It is a yellow, insoluble powder, resembling in appearance iodoform, and is recommended as an odourless substitute for it. It lessens secretion from moist surfaces, and promotes healing, but the experience of several observers scarcely justifies us in ranking it as equal in efficacy to iodoform. Bluhm and Davidsohn (*Ther. Monatsh.*, Dec, 1891), Colasante, Asua, and Bürtzeff (*Brit. Med. Journal*, 1892).

Werther and Isaac speak highly of it (*Ther. Monatsh.*, 1892).

Diaphtherin (διαφθείρω, to destroy). This body is a sulphonic derivative of oxychinolin, and is related to aseptol. It occurs in amber yellow crystals, and differs from many other "aromatic" antiseptics in being readily soluble in water, in almost every proportion, and in dilute spirit. Its watery solution gives a blue green with ferric chloride, and excess of soda precipitates oxychi-

nolin. Kronacher (*Münch. med. Woch.*, May 10, 1892), relates his experience of diaphtherin (oxychinaseptol), while Emmerich (*ibid.*) shows that this drug, even in weak solutions, possesses powerful bactericidal properties, while its toxic properties are slight. Kronacher has used it in surgical practice for more than a year, and mostly in 1 per cent. solution. In cases of ulcers, &c., and as an antiseptic in operations, it has given the desired results. No ill effects have been noticed when it has been applied to large surfaces, as in extensive operations. In a few cases it has given rise to a slight feeling of burning, but this has quickly passed away, and eczema has never been produced by it. Instruments should be placed in some other antiseptic solution, as a black deposit is formed on them if the nickel in them is not pure. Diaphtherin has been especially useful in cases of burns and ulcers of the leg.—(*Brit. Med. Journal*, June 4, 1892, and *Therap. Monatsh.*, July, 1892).

Paracresotic Acid.—A homologue of salicylic acid, obtained from cresol. In white needles, easily soluble in alcohol, chloroform, and ether; almost insoluble in water. It is the least poisonous of the three isomeric cresotic acids, and the only one that can be safely used. As an antipyretic it is inferior to salicylic acid, but is better tolerated by the digestion (*The Extra Pharm.*, 1892). Egasse (*Bull. Gén. de Thér.*, Jan., 1892), draws attention to the value of paracresotic acid as an antipyretic. It has been employed in the form of a cresotate of sodium by Loesch, who found that doses of 6 to 8 grammes were perfectly well borne by adults. Demme has chiefly employed this drug in children for its antipyretic and antifermentative action. He finds it of great benefit in acute articular rheumatism, having somewhat the same action as salicylic acid, while it is better borne. In the catarrhal pneumonia of children it has been employed in the dose of 10 centigr. every two hours, and has shortened the course of the disease and rendered recurrences less frequent. In typhoid fever it diminished the diarrhœa. It also gave good results in the gastro-intestinal catarrh of nursing women. The maximum daily dose for young children should not exceed from 0·5 gramme to 1 gramme, but young adults may take from 3 to 4 grammes daily (*Brit. Med. Journal*, March 19, 1892). A preparation termed *Solveol* is a solution of sodium cresotate with cresols.

Phenacetin in Influenza.—This medicament, which in Italy is used as an analgesic-antithermic in the treatment of influenza, has

been successfully employed by Dr. Baude in the Military Hospital at Lille. Its action is prompt, and does not, like quinine and salicylate of sodium, give rise to surexcitation or ringing in the ears. Phenacetin increases the urinary secretion, and hence it does not determine, by accumulation, the appearance of toxic phenomena. It has no unfavourable action upon the kidneys. The dose of phenacetin varies from 1 to 1½ grammes daily, given in three or four doses at equal intervals. The amelioration in the patient is apparent after the first dose. The temperature falls and the pains cease promptly. The feeling of fatigue disappears more slowly. There is an augmentation of urine, and this, with transpiration, marks the breaking up of the malady. In twenty-four to forty-eight hours after the beginning of treatment by phenacetin all symptoms disappear, and the patient enters into convalescence.—*Bulletin Méd., Du Mord.; Bull. Thérap.*, June 8, 1892.

Phenocoll Hydrochlorate.—Hertel, Herzog, and Aronsohn have given favourable accounts of it, and Cohnheim reports additional investigations with this drug in twenty cases. In five cases it was used as an antipyretic. A marked effect was produced in from three to four hours, the average fall of temperature being 2° F., and once 4° F. There was some chilliness, and even more sweating than with antipyrin. It was used as an anti-neuralgic in ten cases, seven of which were suffering from influenza. Its therapeutic effects here would place it alongside the best anti-neuralgic remedies. It was useless in hysteria, as well as in cases where other anti-neuralgic remedies failed. It was of service as an anti-rheumatic in two cases of acute rheumatism, but without effect in a case of chronic rheumatism. It gave a negative result in two cases of bronchial asthma. A not inconsiderable antipyretic effect was noted after a single dose of 0·5 g. As an anti-neuralgic it was given in 0·5 g. doses three times a day. The largest single dose given was 1 g., and the largest amount in the day 4·5 g. No unpleasant effects, such as collapse, &c., were produced by it. the author strongly recommends the further use of this drug in neuralgia, and especially when it is due to influenza (*Ther. Monatsh.*, Jan., 1892). Albertoni (*Rif. Med.*, Jan. 5, 1892) reports a series of thirty-four cases of malarial fever which were treated with phenocoll. Of these twenty-four were permanently cured, in five the result was *nil*, and in the remaining five it was doubtful. In some of the cases which were cured the disease was very severe, and quinine had done little or no good. The dose of phenocoll

used was always 1 gramme, given in powder or solution from five to seven hours before the attack. The substance produces no disagreeable effects, and its taste is easily masked by sugar. The attack was cut short after one, or at most two, doses, but the administration of the drug was continued for some days after the cessation of the fever in order to prevent relapse.—(*Brit. Med. Journal*, April 2, 1892.)

Salophen.—A compound ether of salicylic acid. It contains 59·9 per cent. salicylic acid, and occurs in minute white scales, almost insoluble in water. It is tasteless and inodorous, and was introduced as a substitute for salol on account of the ill effects thought to result from the liberation of phenol from the latter. Like salol it is unaffected by acid gastric juice, but is decomposed in the small intestine, salicylic acid being set free. Any undecomposed salophen is excreted in the fæces.—(*Therap. Monatsh.*, January, 1892.)

Frohlich speaks most favourably of its action in acute rheumatism, and prefers it to sodium salicylate or salol, because it is non-hygroscopic, keeps well in any form, is tasteless, and does not cause the unpleasant effect often induced by the former drugs (*Ther. Monatsh.*, Sept., 1892). Salophen is sometimes excreted in the crystalline form in the sweat.

Salipyrin.—A compound of antipyrin and salicylic acid has also been successfully used by Trechtenberg in acute rheumatism, and is effective even in chronic rheumatism and sciatica. Dose, 1 gramme several times a day.—(*Brit. Med. Journal*, Epit., July 30, 1892.)

Lysol.—A German competitor of creolin. It is a dark-coloured alkaline liquid, incompatible with acids. Pée (*Deutsch. med. Woch.*, Oct. 29, 1891) records his opinion of the high value of lysol as an antiseptic, and points out the advantages it possesses over similar substances in solubility, convenience, cheapness, and safety. Consisting of a mixture (in about equal proportions) of cresol and soft soap, lysol is readily soluble in water at any temperature. A 1 in 200 solution destroys streptococci in fifteen minutes, resembling in this respect a 1 in 500 solution of corrosive sublimate, and a 1 in 200 solution of carbolic acid. Lysol is equally suitable for disinfecting the hands, instruments, or the field of operation, while its poisonous potency is only one-eighth that of carbolic acid and half that of creolin. As a disinfectant in midwifery, Pée recommends a 1 per cent. solution of lysol, his experience of its use having been very favourable. It is especially suited for midwives and nurses

on account of its safety, cheapness, and convenience (*Brit. Med. Journal Suppl.*, Nov. 28, 1891). Cadéac and Guinard also consider lysol to be a useful and cheap disinfectant, of sufficient activity.

Peroxide of Hydrogen.—From a large experience with this drug, Stuver (*Therap. Gazette*, March, 1892) draws the following conclusions:—(1) A reliable solution of hydrogen peroxide is an efficient and safe germicide; (2) by its oxidising power it rapidly decomposes pus, diphtheritic membranes, and other pathological decayed deposits and effusions; (3) it is an excellent deodoriser, and a non-irritating cleansing agent for foul wounds, abscesses, &c.; (4) it is a valuable diagnostic agent in determining the presence of pus, for, when injected into a part in which suppuration is suspected, it will indicate pus, if present, by causing almost immediate tumefaction. When employing the drug in this way the surgeon must be prepared at once to use the knife should his suspicions prove correct, as thereby pain will be avoided. A number of suppurating buboes treated by the author did admirably under this method.

Boric Acid.—The therapeutic value of boric acid externally is admitted, and it is largely and successfully used in surgical practice. Jaenicke has submitted it to a thorough investigation, and concludes that although it is a very feeble disinfectant, yet, when freely used, it has remarkable powers in preventing the development and increase of micro-organisms, and of their toxic products. Boric acid, at ordinary temperatures, is soluble in water to the extent of 4 per cent. only. But Jaenicke has discovered that a compound can be prepared by heating equal parts of borax, boric acid, and water to boiling point, which dissolves in water to the extent of 16 per cent. It retains all the virtues of boric acid, and he has employed it with great advantage in purulent affections of the middle ear.—(*Ther. Monatsh.*, Sept., 1891.)

Europhen.—It is known that by the action of iodine upon bodies of the phenol series in the presence of alkalies, compounds are produced that are claimed to possess antiseptic properties. The best known of these is the "dithymol-iodide," which has been introduced into medical practice under the name "aristol." It is now stated that similar properties are possessed under more advantageous conditions by certain compounds formed in a like manner from substitution derivatives of homologues of phenol, and one of these has been described under the name "europhen." Europhen is an amorphous yellow powder, resinous to the touch and adhering to the mucous membrane or intact cuticle much more readily than

iodoform. It is stated to have a peculiar aromatic odour, recalling that of *o*-cresol and also of saffron. In water and glycerine it is insoluble, but it is freely soluble in alcohol, ether, chloroform, collodion, traumaticin and fixed oils. A solution in oil is said to be useful for subcutaneous injection in various affections, but it should be filtered before use. The europhen action seems to be similar to that of iodoform, by slow liberation of iodine in contact with pus, but it is claimed that the new compound presents the advantage of being comparatively free from odour, non-toxic, and so light that a given weight of europhen will cover five times as much wound surface as the same quantity of iodoform. The selection of a trivial name for this novelty can hardly be deemed a happy one, since "europhen" is sufficiently near to "*euphorin*," the designation recently applied to phenyl-urethane, to provide for a considerable amount of confusion should both compounds come into general use (*Pharm. Journal*, Aug. 1, 1891). The observations of Lowënstein and Nolda attest the above statements (*Therap. Monatsh.*, Sept., 1891 and Oct., 1891). Several Russian surgeons have also reported upon europhen as a useful substitute for iodoform.—(*Brit. Med. Journal Epit.*, Aug. 13, 1892).

Thiophen Iodide, another rival of iodoform, is recommended by Hock, of Vienna. Thiophen (C_4H_4S) is a sulphuretted hydrocarbon of the aromatic series, and its iodide ($C_4H_2I_2S$) crystallises in white plates, insoluble in water; soluble in alcohol, ether, or glycerine.—(*Ther. Monatsh.*, Feb., 1892.)

Ichthyol.—This curious compound maintains its place, and a considerable literature has gathered around it. A few of the recent researches may be alluded to. M. Latteux, of Paris, has shown, by bacteriological experiments, that ichthyol has well-marked antiseptic qualities (*Extr. des Bull. et Mém de la Soc. de Méd. Prat.*, 1892). Jadassohn strongly recommends the treatment of gonorrhœa by (1 per cent. and upwards) injections of ichthyol, and thinks that by its means "the ideal of the treatment of gonorrhœa is attained" (*Deutsch. Med. Woch.*, 1892). Several authors—German, French, and Italian—confirm Freund's high estimate of the value of ichthyol as an anodyne and absorbent in inflammatory affections of the female genital organs, and Klein considers it almost a specific in the treatment of erysipelas. He employs an ointment of equal parts vaselin and ichthyol.

Two substitutes for ichthyol have been lately proposed:—

Thilanin, a brown sulphuretted (3 per cent. sulphur) lanolin,

recommended by Saalfeld as an energetic and yet unirritating remedy in eczema.—(*Ther. Monatsh.*, Nov., 1891.)

Tumenol, a sulphonised product of mineral oil, miscible with water. Applied dissolved in a mixture of equal parts of ether, rectified spirit, and water or glycerin. Commercial tumenol is a mixture of a sulphone and a sulphonic acid. These are prepared for separate use, and are termed "tumenol oil" (tumenol-sulphone) and tumenol powder (tumenol sulphonic acid). Neisser speaks well of the use of tumenol in eczema, ulcers, and as an anti-pruritic.—(*Ther. Monatsh.*, May, 1892.)

New Uses for Sulphonal.—Apart from its uses in simple insomnia and some of the neuroses, sulphonal appears to have been of value in controlling such symptoms as reflex spasm and the uneasiness following traumatic injury. We note (*Medical Record*, July 2, 1892) that Dr. Edmund Andrews, of Chicago, speaks of sulphonal as a certain remedy in the treatment of muscular cramps of the legs appearing during the night, and especially those accompanying those of the long bones. In a case of recently-fractured femur fifteen-grain doses gave immediate relief. In the after-treatment of laparotomy, Dr. A. F. Jonas (*Omaha Clinic*, August, 1892) says that the symptoms of sleeplessness occurring in these cases should always be relieved lest insomnia seriously complicate recovery; he usually gave sulphonal in such conditions. Dr. Althaus (*Amer. Jour. Med. Science*) recommends sulphonal for the insomnia liable to occur in the treatment of post-grippal psychoses. Dr. Alexander J. C. Skene has employed sulphonal in the after-treatment of laparotomy. He writes as follows (*In. Med. Mag.*, March, 1892):—"Sulphonal does remarkably well as a sleep producer, and is much preferable to bromide, chloral, or any combination of such remedies. It produces the desired result in the great majority of cases that are not kept from sleep by severe pain. This remedy is worthy of note as rather new, and is certainly one that will cause sleep with no other perceptible effect, good or bad."

Treatment of Insomnia.—Dr. Joseph Collins, of New York (in *Journal of Nervous and Mental Disease*), contrasts the action of chloralamid and sulphonal in the treatment of insomnia, and arrives at the following conclusions:—

1. Chloralamid is a safe and one of most reliable hypnotics.

2. It is not ordinarily followed by distressing after-symptoms, particularly headache.

3. It is especially valuable as a hypnotic where pain is a potent factor, but not violent.

4. In cases of insomnia, where there is excessive activity of the brain, it is also useful.

5. On account of its stimulating activity of the respiratory function, it is the hypnotic *par excellence* in nervous exhaustion, associated with an asthenic condition of respiration and complex symptoms indirectly dependent upon this, brought about by defective oxidation and the formation of unstaple chemical compounds in the system.

6. On account of its very slight action in depressing the circulation, it can be given in diseases associated with a weak heart, with greater safety than most other hypnotics, not excepting chloral itself.

7. It is conveniently administered in the shape of an elixir, and this overcomes the need of dissolving it.

8. Its dose is from one to three scruples, administered one hour before sleep is desired, and this should not be repeated within two hours, for occasionally the action of the drug is delayed.

Sulphonal is preferred when we wish to get very rapid action. It should be given dissolved in boiling water, taken as hot as possible. In this way it is at once absorbed, sleep frequently occurring in from fifteen to twenty minutes. The disadvantages of sulphonal are that the patient is liable to form the sulphonal habit, and that its effects last through part of the following day.

CONGRÈS FRANÇAIS DE CHIRURGIE, 1893.

THE seventh session of the French Surgical Congress will open at the Faculty of Medicine, Paris, on Monday, April 3, 1893, under the presidency of M. le Professor Lannelongue, of Paris. The first meeting (devoted to various questions) will take place at 9 o'clock a.m. in the large theatre of the School of Medicine. The formal inaugural meeting of the Congress will take place at 2 o'clock p.m. Two questions have been set down for discussion on the programme of the session:—1. Fibrous Tumours of the Uterus; 2. Surgical Treatment of Tubercular Affections of the Foot. The morning sittings of the Congress will be devoted to visits to the hospitals and to the discussion of various questions. The members of the Congress were requested to forward, not later than February 15, the title and conclusions of their communications, to M. Félix Alcan, publisher to the Congress, 108 Boulevard St.-Germain. to whom also all inquiries respecting the Congress should be addressed. The Secretary-General is Professor S. Pozzi, Paris.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

CLINICAL RECORDS.

Clinical Experience at the London Temperance Hospital.

The following remarks formed the closing part of the address given by Dr. James Edmunds, of London, at the breakfast of the United Temperance Movement in Dublin in October, 1892[a]—Professor Hamilton, President of the Royal College of Surgeons in Ireland, in the chair:—

I have been asked to add some words as to our clinical experience at the London Temperance Hospital, which, as you know, I have been active in founding and working. In 1868, when we first began non-alcoholic treatment methodically in a London hospital, the practice often was to order alcoholics as a sort of cure-all in almost every case. Those of us who disbelieved in this practice and saw the vast evils which grew out of it found ourselves face to face with the mass of our medical brethren. Eminent physicians, like Dr. Todd, constantly prescribed alcoholic beverages almost to every patient who consulted them. An ailing girl—perhaps a girl too tall for her age, and who had overgrown her strength—perhaps a young girl damaged by sitting up late at night because her mother was a bad manager and did not put her child properly to bed—perhaps a girl whose mother was a wasteful marketer, or a bad cook, and who did not get that kind of food which would solidify her growing frame properly; such a girl when taken to the doctor was ordered stout, or port wine, or sometimes "a little brandy and water when low or faint." In this way Temperance Reform was continuously thwarted, and medical prescription actually became one of the chief factors in the manufacture of drunkards. Unfortunately, all this was done with the best motives. It was not the motives of the doctors that were at fault, but only their senses. Such doctors were, consequently, very difficult "to get at." They naturally sheltered themselves behind their sense of professional duty, and behind their own perfectly honest conviction that

[a] See the Number of the Journal for January, 1893, page 52.

these young people would not do well unless alcoholics were given to them. As to those of us who set ourselves against this indiscriminate prescription of alcohol, we were spoken of very kindly by our medical brethren, but as cranks, as "teetotal doctors;" as most excellent men—very much like excellent mathematicians, whose craze for a straight line was so great that, as navigators, they would run their ship on to a rock rather than trim their sails or bend their course. Sometimes, when we got on to the platform or into the newspapers, we used to take it out of our medical brethren; but the whole position was a very unsatisfactory one, and the old temperance workers got very savage when some poor drunkard of whom they had made an abstainer, and who had since got a nice little home round him, had a bad cold, or something, and went to his club doctor and was told oracularly and solemnly that he must take stout. These doctors did not see beyond their own scientific noses, whereas the temperance worker saw the whole vista of drunkenness and misery to which the good doctor was opening the door. Well, under these circumstances, in the year 1868, methodical clinical work on classical lines of medical treatment, but apart altogether from the routine administration of alcohol, was commenced by me at the British Lying-in Hospital. This was done in order to demonstrate whether the "brandy doctors" or the "teetotal doctors" were the real cranks.

The results were perfectly satisfactory. But no sooner had this new treatment been got well under weigh than a difficulty cropped up with the religious brewers and distillers who were among the governors of that hospital, and at the governors' meetings a chronic fight began, with a view to put down this "teetotal fanaticism." Nurses, also, who had been accustomed to assist the patients with their wines and spirits, disapproved exceedingly of these "teetotal notions." After about a year, this work at the British Lying-in Hospital had to be abandoned, and some time later, those who had supported this non-alcoholic treatment formed a committee and founded the London Temperance Hospital. This hospital therefore was founded as a refuge where a reformed drunkard could be sent for an operation, or for a serious illness, and where he would be secured against the medical prescription of alcohol, unless by physicians who had well thought the subject out from a temperance standpoint, and who were clear that alcohol would be really beneficial. In all other respects the patient was to be treated on classical lines, just as in your celebrated Dublin hospitals. While this was a main motive in the foundation of this hospital, there was no restriction as to the admissions, either on the ground of abstinence or otherwise, while all the ordinary medical and surgical cases were to be admitted precisely as into any other general hospital in London. Of course the precaution was taken of appointing physicians who were amply in sympathy with temperance work, as well as able to hold their own in medical science

and clinical practice. The medical officers thus appointed were put under only one restriction—that of never prescribing alcohol without doing what George Ling had asked me to do—*i.e.*, give a reason for their prescriptions, such reason to be entered at the time by the prescriber in a book kept for the purpose, and labelled "exceptional cases." The rule of the hospital was that as an article of diet alcohol was excluded absolutely from the patients' meal tables; that as a pharmaceutical vehicle alcohol should be got rid of as far as possible; that as a drug it should be prescribed only by the visiting physicians or surgeons, and only under the restriction already described. Special consideration was devoted to getting rid of alcohol from the hospital pharmacy. There are many resinous drugs, such as guaiacum, asafœtida, myrrh, and others, which are soluble only in strong alcohol, and which are usually given in spirit nearly twice as strong as brandy. These can all be given in powder blended with other substances, and the dose stirred into a wine-glassful of milk, as is done with precipitated sulphur. Sometimes these resinous drugs can be given with advantage in alkalised emulsion. In this way the rectified spirit-of-wine tinctures were got rid of altogether. Then, as to the weaker spirituous tinctures, about equal in strength to brandy, we found that a solution of glycerine and distilled water (in equal parts) dissolved out the virtues of almost all drugs that were kept in the form of the weaker alcoholic tinctures. Many substances, again, could be given in the form of pill, tabloid, powder, or sugary confection. The result was that we were able to abolish almost entirely the use of alcohol as a pharmaceutical vehicle. Thus we started fairly, and on a sound scientific basis, with our medical prescriptions. This hospital has been very largely patronised; there has never been any difficulty with the non-alcoholic treatment, and there never need be any with practitioners who know what they are about. The clinical results have been excellent, and will abundantly bear comparison with those of any other general hospital. This elimination of alcohol from the pharmacy has been an unalloyed advantage, and has saved a large amount of money to the hospital funds. The pure and true action of the drug prescribed is always obtained. The dispensers are never found drunk, and no accident on that score has ever happened.

So great has been the practical success of the work, that we now have upon one of the main thoroughfares in London a finely built, fully furnished, freehold hospital containing 120 beds—a model of economy, comfort, and efficiency—the whole paid for, and free from debt, more than £100,000 having been collected in voluntary subscriptions for the maintenance and equipment of this hospital.

In starting this hospital all sorts of objections had to be confronted. Some of our medical friends considered it "highly unprofessional;" some considered it to be an insult to the other hospitals; and we were

threatened with inquests for neglect to save the patients' lives by administering brandy. But the need was clear, and on we went. None of these gloomy prognostications have in any case been fulfilled, but, on the contrary, an impulse to the medical disuse of alcohol has been given all over the world. Reports of this hospital's work may be obtained by anyone who sends a note to the secretary.

There is no doubt that in certain cases alcohol has a powerful drug-action upon the animal body, and that exceptional cases, in which it may be used scientifically, and apart altogether from mere routine, do occur. But those cases are comparatively rare. The tendency of our clinical studies is to diminish the number of such cases, and to show that, in a large proportion of them, other agents serve the purpose better than the alcohol. In cases where an extremely high temperature is endangering the patient's life there can be no doubt that a large dose of alcohol will so far paralyse the heat-producing actions as to materially bring down the *hyper-pyrexia*. But hitting a patient on the head with a bludgeon would also bring down his temperature, and the question is, how far does the molecular concussion of the nervous system which is produced by alcohol, or any other such drug, simply disguise the symptoms or put off the evil hour? And, by immersion of the body in tepid water for a definite time we may abstract redundant heat as completely and rapidly as we choose, the body being meanwhile in no way damaged by drug action. Cold or tepid sponging of the body, a very cool atmosphere, and other measures—even other drugs, have the same action. For my own part, I find these agencies safer and more efficient than the use of large doses of alcohol. There are certain cases of *hyperæsthesia*, such as *laryngismus stridulus* in young children, which by a sort of explosive sensitiveness in the nerves of the larynx produces dangerous suffocative paroxysms. No doubt a few drops of alcohol in water put into such a child's mouth is instantly breathed into the larynx and lungs and relieves the spasm. A whiff of ether or of chloroform has the same action, but if these are not at hand in such cases I should use a half teaspoonful of brandy or whisky to meet an emergency. In cases of heart failure—as in prolonged cases of fever where the heart is practically tired out by having been over-worked for several weeks continuously—there is no doubt that the administration of alcohol increases arterial tension and hardens the pulse. But so would a whiff of carbonic acid. I believe that a pulse hardened in this way by alcohol is not an index of increased strength or of an improved circulation. Increased arterial tension is an evidence of obstruction to be overcome in the capillaries, and of extra strain thrown upon the heart's muscle, rather than an evidence of improved circulation. Such obstruction I believe to be always produced in the capillary current by alcohol, and it produces this by retarding the reactions between the tissues and the

capillary blood current. Partial stasis is thus produced, and more power is required from the heart in order to drive on the sluggish current in the capillaries—a current which is closely dependent upon the extra-vascular soakage of the blood-plasma.

But if this be the true explanation of the hardened pulse, it follows that the action is one by which the remnants of the heart's energy are only being more rapidly exhausted. We have a perfect analogy in the action of the respiratory muscles. The most perfect respiration takes place when the respiratory muscles move the least frequently. Tie an animal's trachea, and though you interpose no mechanical obstruction to the blood-current in the lungs, the whole of the capillaries at once refuse to pass their current from the right to the left side of the heart. This is simply because the respiratory exchanges in the lung-cells have been arrested. Let the animal breathe a little carbonic acid, or produce a little asthmatic spasm of the bronchial tubes, and you at once get the respiratory muscles thrown into quicker and more violent action. That increased energy is a measure of the difficulty of the respiration; it is in no sense an evidence of improved respiration. I submit that the analogy holds good with the circulation of the blood, and that anything which hardens the pulse does so because it has made the circulation more difficult. My own convictions are that in these cases of heart exhaustion the patients are more likely to get through if we let them alone, feed them carefully, keep them in the recumbent position, and economise their strength by preventing unnecessary movement. I now never administer alcohol in order to meet this condition. These experiences in clinical medicine I submit also as throwing light upon the physiological action of alcohol as an article of diet. I think that they all exhibit alcohol as a true narcotic—a narcotic in small doses as well as in large doses.

GLYCERINE IN HEPATIC COLIC.

Dr. Ferrard concludes a communication to the French Academy as follows:—1. Glycerine administered by the stomach is absorbed in its natural state by the lymphatics, especially by the vessels which lead from the stomach to the hilum of the liver and to the gall-bladder; it is even found in the suprahepatic veins. 2. It is a powerful cholagogue, and an excellent remedy for hepatic colic. 3. In relatively large dose (20 to 30 grammes), glycerine brings an end to the attack. 4. In small doses (5 to 15 grammes), taken each day in a little alkaline water, it prevents new attacks. 5. Glycerine, without being a lithotriptic, is nevertheless a valuable agent in biliary lithiasis.—*Journal de Médécine de Paris* and *Journ. of the American Med. Association*, Nov. 5, 1892.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—George H. Kidd, M.D., F.R.C.S.I.
General Secretary—W. Thomson, F.R.C.S.I.

SECTION OF MEDICINE.

President—Walter G. Smith, M.D.; President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. Montgomery, M.R.C.P.I.

Friday, Jan. 27, 1893.

Dr. Hawtrey Benson in the Chair.

Living Specimens.

Dr. Wallace Beatty exhibited two patients, both being females, with Lupus Erythematosus.

Some Points in the Modern Treatment of Consumption.

Mr. J. Knox Denham read a paper entitled "Some Points in the Modern Treatment of Consumption." [It will be found at page 212.]

Dr. Nixon said that cases of consumption amongst the poor might be divided into those which are curable and those which, although incurable, might be relieved as regards the most distressing symptoms, and have their lives prolonged. The cases coming under the first class were very few. There was not a sufficiently good combination of circumstances as regards climate to give them a favourable chance of recovery while resident in Ireland. The idea of erecting a hospital to treat these patients is mythical. He thought it was better to send them to high mountain regions—to Egypt or to Australia. The second class of cases can be well treated in the wards of a general hospital, requiring, as they do, a good bed, good food, rest, and not too much medicine. These cases would not be admitted into a special hospital for consumption. The last Commission for inquiring into the Dublin Hospitals stated that Dublin was the most over-hospitaled city in the three kingdoms. He wished to call attention to the fact that although the number of beds was large, many of them were kept vacant owing to want of funds. It would be better to spend the money in filling these beds than in building a new hospital.

Dr. J. W. Moore said that he agreed in the main with Mr. Denham, but differed *in toto* from Dr. Nixon. He thought the climate of Ireland

fulfilled all the desiderata for the treatment of consumption which were asked for by Dr. Nixon, with the single exception of humidity, more so than any other place. Its temperature is most equable, and there is abundance of fresh air. The only drawback is the dampness, both of the air and of the soil. He thought that patients belonging to Dr. Nixon's second class should not be admitted to a special hospital whose object was to give those who had a fair prospect of cure a chance. These patients could be received into the Royal Hospital for Incurables or into the Hospice for the Dying. In the proposed new hospital each patient would have a separate sleeping apartment He did not think Dublin was over-hospitaled, as it received patients from all Ireland. The proposed site of the new hospital is three miles inland from Newcastle, Co. Wicklow. He thought the arrangements in our city dispensaries, in the extern departments of our hospitals, and in the wards themselves were 50 years behind the time.

Mr. Broomfield remarked that whatever Dr. Moore's views were as to the climate of Ireland being suitable for the treatment of consumption, it was very suitable for its development. He thought that the new hospital should be for the incurable cases, as they would thus be isolated and infection limited.

Dr. Ninian Falkiner thought that cases of phthisis should be removed from crowded tenement rooms; and if this were done the death-rate from consumption would be lower.

Dr. Bewley thought the new hospital would be insufficient to relieve the other hospitals. Phthisis lasted a good while, and patients did not like being taken away from their homes for a year.

The Chairman (Dr. Hawtrey Benson) agreed with Dr. Moore as regards the climate of Ireland.

Mr. Denham, in replying, said that when he commenced to investigate the subject of the new hospital he was strongly prejudiced against it, but that as he proceeded in the study of the subject he became a firm believer in it. He thought ordinary hospitals were defective for treating consumption in the following points:—First, the temperature was not constant; secondly, the cubic space allotted to each patient was insufficient; and thirdly, the diet was unsuitable. He thought the patients suitable for admission to the new hospital would be those in whom the physical signs were not marked. He again repeated the decision of the 10th International Medical Congress held at Berlin, which was strongly in favour of treating pulmonary consumption in special hospitals.

Some Recent Clinical Experiences.

Under this heading, Dr. J. W. Moore detailed notes of a series of five cases, selected from those which had come under his observation during a recent period of clinical duty at the Meath Hospital, lasting from

October 1 to December 31, 1892. While they are, no doubt, types of the every-day clinical experiences of a hospital physician, the cases throw more or less light upon obscure features in diagnosis and pathology, and illustrate some practical points in treatment. Hence their selection. They are as follow:—

1. Axillary Abscess in an Infant, simulating Scarlatina.
2. Septic Peritonitis from rupture of a small Ovarian Abscess.
3. Retro-pharyngeal Abscess in a man aged 45 years.
4. A case illustrating the short Incubation and Invasion of Scarlatina.
5. Thoracic Aneurysm perforating the Pericardium.

[This paper will be found in full at page 216.]

The Section then adjourned.

SECTION OF STATE MEDICINE.

President—E. MacDowel Cosgrave, M.D.

Sectional Secretary—Ninian Falkiner, M.B.

Friday, February 10, 1893.

The President in the Chair.

Public Cleansing and its Influence on the Mortality of Towns.

Mr. Edgar Flinn read a paper on "Public Cleansing and its Influence on the Mortality of Towns." [It will be found at page 207.]

Dr. Falkiner said that he rarely saw a nuisance existing in a lane or alley. In this respect the scavengers do their work admirably. How to deal with the houses, which are beyond the reach of the scavengers, is a very difficult problem. Certainly five-sixths of the tenement houses in his district are unsuitable for human habitation.

Mr. Denham said that the principal point now to be considered with regard to the removal of the filth of Dublin was its ultimate disposal. He believed that destructors in a central place was a better system than that at present adopted, which entailed the lodgment of the matter on the boat beside the quay wall for several hours.

Dr. J. W. Moore said he thought that Mr. Flinn laid undue stress on the removal of refuse as a means of abating the zymotic death-rate, since diseases such as enteric fever, scarlatina, or erysipelas had not decreased. Typhus fever and some of the eruptive fevers in children had diminished. The really great reform in sanitary matters in recent years in Dublin is the improvement in the tenement houses of the poor. The last Census Commission has shown this. There has been a great diminution in 4th-class houses and a great increase in the number of 1st and 2nd-class houses. With regard to the removal of refuse, he pointed out that the night-soil was not removed, but was sent down water-closets connected

with imperfect drains, which allow matter to trickle into the subsoil. On account of this, typhoid fever has been increasing. Ashpits would be better than these imperfect drains.

Dr. Byrne thought that the removal of filth was greatly superior to placing it in ashpits for some time.

The President said that it was very unfortunate that, when closets were substituted for privies, the drains were not made perfect. He had seen the pail system in another town, and he would be very sorry to see it introduced here. Another objection to it would be the large number of different families living in the same house.

Mr. Flinn stated that when he was writing the paper he had the country towns principally in his mind. He thought that the statement of the Medical Officers of Health for Dublin, Belfast, and Kingstown—that they believed the cases of zymotic diseases had decreased in number owing to the cleansing of town—was very convincing. He had great belief in the pail system; he had seen it employed for two years with great success in Walsingham. The pails were emptied and hosed between 4.30 and 5.30 a.m. every morning. He thought that the pails ought to be provided free of charge to the poorer class of people.

Note on a Question of Public Health.

Dr. Falkiner gave an account of a case of enteric fever which he had been called to see on the 43rd day. Not being sure of the diagnosis (the patient, a woman, having miscarried about the time of the attack), he did not remove her to a fever hospital. In the following fortnight two other cases occurred in the same story of the house—*i.e.*, the basement. All were then removed to hospital.

On making a sanitary examination of the house, the drain which passed under the area or cellar floor of the house was found to be defective, and no intercepting trap was found.

Dr. Falkiner said that this experience confirmed him, first, in believing that nursing enteric fever in a tenement house is an unjustifiable act; and, secondly, that sewer gas, whether it contains Eberth's bacillus or not, is a constant source of enteric fever. On two other occasions, when fever cases had occurred in the same house periodically, he had found the sewers untrapped, and on proper intercepting traps being put in the fever had ceased.

Dr. Falkiner expressed his approbation of the manner in which the case had been attended by one of the Queen's Jubilee nurses from St. Patrick's Home—the chart which was exhibited having been made by her.

The President wished to ask Dr. Falkiner did he think cases such as he had recorded should be sent to general hospitals, and not to special hospitals.

Dr. T. Donnelly thought that infectious diseases could not be properly treated in tenement houses. He could recall two cases of typhoid fever

in which the patients died through improper food having been given to them. These cases he thought were better treated, and gave less trouble in a special hospital. He thought that many cases were put down as typhoid fever which were in reality due to poisoning by sewer gas. He had two cases in adjoining houses in which he could not get the typical signs of typhoid, and at last he began to suspect the drains. He examined them and found the waste-pipe of the scullery communicating without a trap with the drain. He had this remedied, the patients immediately improved, and were well in a week. He considered that the fee paid for notification of infectious cases was shamefully small, and had the effect of inducing some practitioners not to report, but to hold on to infectious cases in the hope of obtaining a large fee He had met cases in which the practitioner told the parents the case was measles when it was really scarlatina, with this object in view.

Mr. Cox said he was very glad to treat any cases that came to hospital. He had several typhoid cases lately, and found them a most satisfactory class of patients; and he thought they could be treated satisfactorily in general wards, although he would be very glad to see a special hospital for infective diseases on the north and south sides of the city.

Dr. Falkiner's cases were doing well in the hospital at present. He thought it simply a monstrous thing that men should act in the way Dr. Donnelly had described. Perfect harmony he considered should exist between the officers of the various districts and of the hospitals. People could not be properly treated in their wretched rooms. He thought the Jubilee Nurses were doing a very noble work in Dublin, and that their devotion was only equal to their excellent training.

Mr. Doyle thought that it was often impossible to diagnosticate a case as typhoid fever in one visit. He thought that the 5s. fee of the apothecary in by-gone days was often the maximum fee of the general practitioner of the present time.

Dr. Parsons thought it absolutely necessary to remove typhoid patients to hospital. He thought it quite sufficient to send them to general hospitals, provided there were special wards for the treatment of fever cases. The convenience of the students should also be taken into account. He thought the discovery by Dr. Eberth of a bacillus present in typhoid fever only, and in every case of typhoid fever, and in every place where anatomical lesions were present, showed the bacillary nature of the disease. The fact that the disease could not be caused in animals by the introduction of the bacillus was not very surprising.

Dr. J. W. Moore said that very many cases of typhoid fever occurred which were not notified. This could be seen by comparing the Registrar General's return of the number of cases which entered hospital with the notifications. He thought it would be impossible to get a high fee for notifying infectious cases, as the sum to be made up in a year would be

very large. He believed that the typhoid bacillus might enter the body by the air which was breathed.

Dr. Falkiner, in reply, said that the two additional cases occurring after the first were probably predisposed to typhoid by the unsanitary condition of the drains, and that they probably would not have occurred if the drains had been set right.

The Section then adjourned.

ARMY MEDICAL STAFF.

The Director-General of the Army Medical Department has placed in our hands the following official list of successful candidates for commissions in the Medical Staff of her Majesty's Army at the examination held in London in February, 1893:—

Order of Merit	Names	Marks	Order of Merit	Names	Marks
1	Spencer, C. G.	2,565	8	Killery, St. J. B.	2,245
2	Fowler, C. E. P.	2,560	9	Barter, W. P.	2,230
3	Goodwin, T. H. J. C.	2,550	10	Lattey, A.	2,215
4	Porter, H. E. B.	2,400	11	French, H. C.	2,180
5	Collins, D. J.	2,390	12	M'Munn, J. R.	2,180
6	Smith, W. W.	2,385	13	Anderson, J. B.	2,075
7	Keble, A. E. C.	2,290	14	Williams, E. M.	1,990

CONJOINT EXAMINATIONS IN IRELAND, CONDUCTED BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.

The following candidates passed the examination for the Conjoint Diploma in State Medicine held in February, 1893:—E. H. Lemon, M.R.C.S. Eng. L.R.C.P. Lond.; W. M. Hamilton, M.D., R.U.I.; Surg.-Capt. W. H. B. Robinson, L.R.C.P. & S.I.; Chas. H. Wheeler, M.D., Q.U.I.

BRITISH MEDICAL SERVICE.

The following is the official list of surgeons on probation of the Medical Staff of the British Army who have been successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—February 1st, 1893.—* 1. Mangan, F. M., 5,279; 2. Pollock, C. E., 5,265; 3. Taylor, W. J., 4,672; 4. Longhurst, B. W., 4,407; 5. Rivers, J. H., 4,406; 6. Berryman, H. A., 4,202; 7. Buswell, F. R., 4,161; 8. Symons, F. A., 4091; 9. Farmer, J. H., 4,041; 10. Samman, C. T., 4,012.

* Gained the Herbert Prize of £20, with the Martin Memorial Gold Medal, the Parkes Memorial Bronze Medal, the Montefiore Second Prize, and a Prize in Pathology, presented by Professor A. E. Wright, M.D.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, January 28, 1893.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Jan. 7.	Jan. 14.	Jan. 21.	Jan. 28.		Jan. 7.	Jan. 14.	Jan. 21.	Jan. 28.
Armagh -	14·0	49·1	21·0	49·1	Limerick -	14·0	22·5	22·5	19·6
Belfast -	32·8	29·1	30·1	26·7	Lisburn -	17·0	51·1	38·3	4·3
Cork -	30·5	35·3	31·8	27·0	Londonderry	17·3	31·4	17·3	26·7
Drogheda	26·4	8·8	17·6	39·5	Lurgan -	31·9	18·2	27·4	22·8
Dublin -	30·3	33·6	29·7	28·5	Newry -	20·1	40·2	40·2	60·3
Dundalk -	33·5	71·2	29·3	37·7	Sligo -	35·5	15·2	5·1	15·2
Galway -	37·8	11·3	18·9	45·3	Waterford -	15·0	32·5	17·5	17·5
Kilkenny	4·7	51·9	37·8	42·5	Wexford -	4·5	31·6	13·5	22·6

In the week ending Saturday, January 7, 1893, the mortality in thirty-three large English towns, including London (in which the rate was 30·4), was equal to an average annual death-rate of 29·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 27·1 per 1,000. In Glasgow the rate was 27·7, and in Edinburgh it was 30·1.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 28·6 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in ten of the districts to 8·4 in Dundalk—the 8 deaths from all causes registered in that district comprising 2 from whooping-cough

Among the 167 deaths from all causes registered in Belfast are 1 from measles, 1 from scarlatina, 1 from whooping-cough, 4 from enteric fever, and 1 from diarrhœa. The 44 deaths in Cork comprise 1 from whooping-cough, 1 from diphtheria, and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 152—86 boys and 66 girls; and the registered deaths to 210—105 males and 105 females.

The deaths represent an annual rate of mortality of 31·3 in every 1,000 of the population, being equal to the average rate for the first week of the last ten years. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 30·3 per 1,000.

The number of deaths from zymotic diseases registered was 22, being equal to the average for the first week of the last ten years, but 2 under the number for the week ended December 31, 1892. The 22 deaths comprise 3 from measles, 2 from whooping-cough, 11 from enteric fever, 1 from diarrhœa, and 1 from erysipelas.

Only 14 cases of enteric fever were admitted to hospital against 31 admissions in the preceding week: 10 enteric fever patients were discharged, 3 died, and 162 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

The hospital admissions for the week include also 7 cases of scarlatina and 1 of measles, but no cases of typhus were received. Twenty cases of scarlatina, 4 of measles, and 2 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 32 for the week ended December 24, 1892, to 65 for the following week, fell to 58, or 2 under the average for the corresponding week of the ten last years. The 58 deaths comprise 40 from bronchitis, 10 from pneumonia or inflammation of the lungs, and 3 from croup.

In the week ending Saturday, January 14, the mortality in thirty-three large English towns, including London (in which the rate was 30·3), was equal to an average annual death-rate of 28·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 28·5 per 1,000. In Glasgow the rate was 29·9, and in Edinburgh it was 30·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 31·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·0 per 1,000, the rates varying from 0·0 in eight of the districts to 14·2 in Kilkenny—the 11 deaths from all causes registered in that district comprising 1 from typhus and 2 from

diarrhœa. Among the 148 deaths from all causes registered in Belfast are 1 from whooping-cough, 2 from simple continued fever, and 5 from diarrhœa. The 51 deaths in Cork comprise 2 from whooping-cough. Of the 13 deaths in Waterford, 1 resulted from whooping-cough and 1 from diphtheria. The 10 deaths in Newry comprise 1 from whooping-cough and 1 from enteric fever. The 17 deaths in Dundalk comprise 2 from whooping-cough and 1 from enteric fever.

In the Dublin Registration District the registered births amounted to 211—102 boys and 109 girls; and the registered deaths to 232—113 males and 119 females.

The deaths, which are 3 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 34·6 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 33·6 per 1,000. During the first two weeks of the current year the death-rate averaged 33·0, and was 1·1 under the mean rate in the corresponding period of the ten years, 1883–1892.

The number of deaths from zymotic diseases registered was 21, being 7 below the average for the second week of the last ten years, and 1 under the number for the week ended January 7. The 21 deaths comprise 1 from measles, 1 from influenza, 3 from whooping-cough, 3 from diphtheria, 7 from enteric fever, 1 from dysentery, and 1 from erysipelas.

Sixteen cases of enteric fever were admitted to hospital, being 2 in excess of the admissions for the preceding week, but 15 under the number for the week ended December 31, 1892. Twenty-two enteric fever patients were discharged, 4 died, and 151 remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 1 case of measles, 4 cases of scarlatina, and 2 of typhus: 2 cases of measles, 20 of scarlatina, and 4 of typhus remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered during the week was 53, being 14 below the average for the corresponding week of the last ten years, and 5 under the number for the week ended January 7. The 53 deaths comprise 33 from bronchitis, 8 from pneumonia or inflammation of the lungs, and 2 from pleurisy.

In the week ending Saturday, January 21, the mortality in thirty-three large English towns, including London (in which the rate was 25·4), was equal to an average annual death-rate of 24·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 27·7 per 1,000. In Glasgow the rate was 29·0, and in Edinburgh it was 28·0.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 28·4 per 1,000 of the population based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in eight of the districts to 7·0 in Armagh—the 3 deaths from all causes registered in that district comprising from 1 diarrhœa. Among the 153 deaths from all causes registered in Belfast are 1 from measles, 1 from scarlatina, 2 from whooping-cough, and 2 from enteric fever. The 16 deaths in Limerick comprise 1 from simple continued fever and 1 from diarrhœa. The 7 deaths in Waterford comprise 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 191—93 boys and 98 girls; and the registered deaths to 203—109 males and 94 females.

The deaths, which are 33 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 30·3 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 29·7 per 1,000. During the first three weeks of the current year the death-rate averaged 32·1, and was 2·4 under the mean rate in the corresponding period of the ten years 1883-1892.

Twenty-seven deaths from zymotic diseases were registered, being equal to the average for the corresponding week of the last ten years, and 6 over the number for the week ended January 14. They comprise 4 from whooping-cough, 1 from ill-defined fever, 10 from enteric fever, 1 from diarrhœa, and 4 from erysipelas.

Twenty-one cases of enteric fever were admitted to hospital, being 5 in excess of the admissions for the preceding week: 23 enteric fever patients were discharged, 1 died, and 148 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 7 cases of scarlatina and 2 of typhus: 24 cases of the former and 5 of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered is 55, being 2 over the number for the preceding week, but 14 under the average for the third week of the last ten years. The 55 deaths comprise 38 from bronchitis, 10 from pneumonia or inflammation of the lungs, and 2 from croup.

In the week ending Saturday, January 28, the mortality in thirty-three large English towns, including London (in which the rate was 22·2), was equal to an average annual death-rate of 22·2 per 1,000 persons living. The average rate for eight principal towns of Scotland

was 23·4 per 1,000. In Glasgow the rate was 26·1, and in Edinburgh it was 19·0.

The average annual death-rate in the sixteen principal town districts of Ireland was 27·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in nine of the districts to 5·0 in Waterford—the 7 deaths from all causes registered in that district comprising 1 from whooping-cough and 1 from enteric fever. Among the 136 deaths from all causes registered in Belfast are 2 from scarlatina, 1 from typhus, 1 from whooping-cough, 2 from diphtheria, 6 from enteric fever, and 2 from diarrhœa. The 17 deaths in Londonderry comprise 1 from whooping-cough and 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 214—114 boys and 100 girls; and the registered deaths to 198—94 males and 104 females.

The deaths, which are 30 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 29·5 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 28·5 per 1,000. During the first four weeks of the current year the death-rate averaged 31·4, and was 3·0 under the mean rate in the corresponding period of the ten years, 1883–1892.

The number of deaths from zymotic diseases registered is 18, being 6 under the average for the corresponding week of the last ten years, and 9 under the number for the week ended January 21. The 18 deaths comprise 1 from measles, 1 from typhus, 1 from influenza, 3 from diphtheria, 5 from enteric fever, 1 from diarrhœa, and 3 from erysipelas.

The number of cases of enteric fever admitted to hospital is 14, being 7 under the admissions for the preceding week, and 2 under the number for the week ended January 14. Twenty-one enteric fever patients were discharged, 1 died, and 140 remained under treatment on Saturday, being 8 under the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 7 cases of scarlatina, and 2 of typhus: 25 cases of the former and 4 of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered is 48, being 7 under the number for the preceding week, and 16 under the average for the fourth week of the last ten years. The 48 deaths comprise 31 from bronchitis, 14 from pneumonia or inflammation of the lungs, and 1 from pleurisy.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N. Long. 6° 15′ W., for the Month of January, 1893.

Mean Height of Barometer,	30·053 inches.
Maximal Height of Barometer (on 21st, at 7 30 a.m.),	30·559 ,,
Minimal Height of Barometer (on 28th, at 9 p.m.),	29·178 ,,
Mean Dry-bulb Temperature,	40·1°.
Mean Wet-bulb Temperature,	38·4°.
Mean Dew-point Temperature,	35·7°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·214 inch.
Mean Humidity,	84·7 per cent.
Highest Temperature in Shade (on 30th),	54·9°.
Lowest Temperature in Shade (on 3rd),	20·2°.
Lowest Temperature on Grass (Radiation) (on 3rd),	14·4°.
Mean Amount of Cloud,	70·2 per cent.
Rainfall (on 19 days),	2·239 inches.
Greatest Daily Rainfall (on 31st),	·513 inch.
General Directions of Wind,	W., N.W.

Remarks.

The promise of a cold month offered by very severe weather during the first ten days or a fortnight was not fulfilled. So decided was the recovery of temperature after the 15th, that the mean temperature of the whole month scarcely fell below the average. The mean temperature of the 1st–14th, inclusive, was 36·0°; that of the 15th–28th, inclusive, was 44·3°. Ireland escaped to a remarkable extent the Siberian cold, which prevailed on the Continent of Europe and to a less degree in Great Britain throughout a large portion of the month. In Dublin the cloudiness of the sky was one of the chief features of the weather, Another interesting point was the singular mildness, which the northerly and north-westerly winds of an Atlantic anticyclone brought to Ireland in the period between the 15th and the 25th.

In Dublin the arithmetical mean temperature (40·8°) was slightly below the average (41·4°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 40·1°. In the twenty-eight years ending with 1892, January was coldest in 1881 (M. T. = 32·2°), and warmest in 1875 (M. T. = 46·6°). In 1867 the M. T. was 35·7°, and in 1865 it was 37·8°. In 1871 and in 1886 the M. T. was 37·9°; in 1879 (the "cold year") it was 35·3°. In 1888 the M.T. was 42·1°; in 1889, 42·4°; in 1890, 44·5°; in 1891. 40·1°; and in 1892, 38·8°. As a general rule, January in Dublin is not colder, but a shade warmer, than December. This is owing to the full development in January of a winter area of low pressure over the Atlantic,

to the northwestward of the British Isles, and to a resulting prevalence of S.W. winds in their vicinity. January, 1892, proved an exception to this rule, the M.T. being 4·2° below that of December, 1891 (43·0°). But January, 1893, conformed to the rule, the M. T. being above that of December, 1892.

The mean height of the barometer was 30·053 inches, or 0·179 inch above the corrected average value for January—namely, 29·874 inches. The mercury rose to 30·559 inches at 7 30 a.m. of the 21st, and fell to 29·178 inches at 9 p.m. of the 28th. The observed range of atmospherical pressure was, therefore, as much as 1·381 inches—that is, a little less than one inch and four-tenths.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 40·1°, or 1·2° above the value for December, 1892. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* × ·52), the M. T. becomes 41·0°, compared with a twenty-five years, average of 41·5°. The arithmetical mean of the maximal and minimal readings was 40·8°, compared with a twenty-five years' average of 41·4°. On the 30th the thermometer in the screen rose to 54·9°—wind, W.S.W.; on the 3rd the temperature fell to 20·2°—wind, W.N.W. The minimum on the grass was 14·4°, also on the 3rd.

The rainfall was 2·239 inches, distributed over 19 days. The average rainfall for January in the twenty-five years, 1865–89, inclusive, was 2·200 inches, and the average number of rainy days was 17·3. The rainfall, therefore, was very slightly above the average, while the number of rainy days was more decidedly above it. In 1877 the rainfall in January was very large—4·322 inches on 25 days; in 1869, also, 4·258 inches fell—on, however, only 18 days. On the other hand, in 1876, only ·406 of an inch was measured on but 9 days; and in 1880 the rainfall was only ·563 of an inch on but 8 days. In January, 1886, only 3·244 inches of rain were measured on as many as 26 days; in 1887 (the "dry year"), 1·816 inches fell on 16 days; in 1888, 1·247 inches on 9 days; in 1889, 2·213 inches on 16 days; in 1890, 2·975 inches on 21 days; in 1891, only ·672 of an inch on 14 days; and in 1892 1·698 inches on 20 days.

Solar halos were seen on the 15th and 25th. A lunar halo was seen on the 28th. The atmosphere was foggy on the 2nd, 4th, 12th, and 29th. High winds were noted on not less than 18 days, reaching the force of a gale, however, on only 4 days—the 7th, 8th, 16th, and 28th. Hail fell on the 3rd, 7th, 14th, and 31st, and snow or sleet on the 1st, 2nd, 7th, and 14th. Temperature exceeded 50° in the screen on 7 days, compared with 6 days in 1892, only 5 days in 1891, 17 days in 1890, and 8 days in 1889; while it fell to or below 32° in the screen on only 4 nights, compared with 15 nights in 1892, 7 nights in 1891, 1 night in 1890, and 3 nights in 1889. The minima on the grass were 32°, or

less, on 16 nights, compared with 25 nights in 1892, 21 nights in 1891, 15 nights in 1890, and 16 nights in 1889.

The first week of 1893 will long be remembered for the intensity of the cold which prevailed in both Northern Hemispheres, and for the remarkable height reached by the barometer in Northern and Eastern Europe—31·25 inches at Archangel on Tuesday, the 3rd, 31·12 inches at Haparanda, on the Gulf of Bothnia, on Wednesday, and 31·27 inches at Moscow on Thursday. At 8 a.m. of Sunday, the 1st, the thermometer stood at *minus* 37° Fahr. at Haparanda, or 69° below freezing point. During the ensuing night the minimal reading at this station was —40°, or 72° of frost. At the beginning of the month a vast anticyclone stretched from the extreme North of Europe to the westward of the British Islands. Strong S.E. winds blew in Ireland, and on Monday morning a fall of snow occurred in Dublin. This was followed by severe frost, the thermometer falling to 20·2° in the screen, and to 14·4° on the ground during Monday night, even in the heart of the city. On Wednesday, the 4th, a decided change of weather set in over Ireland, where the sky became densely overcast, with freshening S.E. winds and rising temperature. In Great Britain at this time the frost only "stiffened," and fog prevailed. By the end of the week, however, strong S.E. or E. winds, with falls of cold rain and sleet or snow had become general, and the weather was most inclement in all parts. In Dublin the mean height of the barometer was 30·110 inches, pressure ranging from 30·369 inches, at 9 a.m. of Wednesday (wind, calm), to 29·763 inches at 9 p.m. of Saturday (wind, E., blowing a moderate gale). The corrected mean temperature was 33·2°. The mean dry bulb readings at 9 a.m and 9 p.m. were 32·5°. The screened thermometers rose to 38·9° on Friday, having fallen to 20·2° on Tuesday. The rainfall amounted to ·624 inch on five days, ·372 inch being registered on Saturday. The precipitation consisted largely of snow or sleet and hail. The prevalent wind was S.E. A noteworthy feature was the relatively high temperature which accompanied this wind in the south-western parts of England and Ireland, and in Brittany.

Although the cold in Ireland and in Great Britain also was much less intense during the week ended Saturday, the 14th, than in the two previous weeks, the record is again one of winterly weather. At the beginning of the period a large area of low atmospherical pressure was found over the Atlantic southwestward of the British Isles. Strong E. and S.E. winds or gales were blowing in Ireland, where also cold rain or sleet fell heavily. During the next two days the depression made its way across the Bay of Biscay and France to Germany, bringing with it to those countries higher temperatures and a thaw. Meanwhile an area of high pressure formed in the far North, causing easterly to northerly winds, and cloudy, cold weather generally. This system subsequently retreated in a south-westerly direction, and disappeared off the S.W. of

Ireland on Friday, when a series of depressions was preparing to travel southwards across the British Isles and North Sea. In front of these disturbances a transitory rise of temperature took place on Friday, and rain fell at night. On Saturday, however, rain gave place to frequent showers of sleet, snow, and hail, as the wind veered to N. and N.E. in the rear of the depressions, which continued their southerly course. In Dublin the mean height of the barometer was 30·090 inches, pressure ranging from 29·616 inches, at 2 p.m. of Sunday (wind, E.), to 30·440 inches, at 9 a.m. of Wednesday (wind, E.N.E.). From this high reading it receded to 29·764 inches, at 9 a.m. of Saturday (wind, W.N.W.). The corrected mean temperature was 38·8°. The mean dry bulb readings at 9 a m. and 9 p.m. were 38·3°. On Friday the screened thermometers rose to 44·4°; on Saturday they fell to 33·0°. The rainfall was ·368 inch on four days, ·228 inch being measured on Sunday. The prevailing winds were—first easterly, then north-westerly.

The most marked characteristic feature in the weather of the week ended Saturday, the 21st, was a decided advance in temperature all over the British Islands, but especially in Ireland, Scotland, and the West of England (including Wales). In France and Germany, on the contrary, the cold "stiffened" daily until Friday, when warmer weather spread in from the Atlantic over the Continent also. A very interesting circumstance is that the milder weather came with N.W. and N. winds, which formed part of the circulation round an anticyclone found generally over the Atlantic to the westward or south-westward of Ireland. On Tuesday morning also a *southerly* wind carried cold weather from the frozen Continent to the S.E. of England, where the thermometer remained all day below the freezing point. Not for many years has such extreme cold been felt in Germany and France as during the greater part of this week—at Munich the minima have been − 11°,−15°,−14°,−8°,−8°, +1°, and +19°; at Lyons the corresponding values have been + 11°, −3°,−1° (?), 0°, + 3°, + 4° (?), and + 17°. During all this time temperatures as high as from 48° to 52° were being recorded on the Atlantic coasts of both the United Kingdom and France. In the interval between Wednesday and Friday a vast depression crossed the extreme northern parts of Scandinavia, bringing with it a thaw even to those high latitudes at a time when intense frost held as far south as Lyons and Munich. On Saturday cold weather was re-established in Scotland and Scandinavia. In Dublin the mean height of the barometer was 30·286 inches, pressure ranging from 29·816 inches at 2 p.m. of Monday (wind, N.W.) to 30·559 inches at 7 30 a.m. of Saturday (wind, W.N.W.) The corrected mean temperature was 42·9°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 42·4°. On Sunday the thermometers in the screen fell to 29·5°; on Thursday they rose to 50·8°. Rain was measured on four

days to the amount of ·341 inch, of which ·277 inch fell on Sunday. The prevailing winds were W.N.W. and W.

A further advance in temperature occurred during the week ended Saturday, the 28th, which proved open, changeable, and breezy, with prevalent westerly to southerly winds. At first an anticyclone lay to the southward of Ireland—on the morning of Sunday, the 22nd, the barometer stood as high as 30·60 inches at Corunna, in the N.W. of Spain—while several shallow depressions were found over the North Sea, Germany, and the Baltic. The winds curved from S.W. in the west of Ireland, through W. in the east of this country to N.W in the S.E. of England, and to N. in parts of France. The weather was mild and damp, and light rain fell at many stations. On Wednesday morning a depression appeared off the south of Ireland, ultimately forming portion of a complex V-shaped depression, which caused southerly gales and in places heavy rains during the ensuing 24 hours. As this disturbance passed off to the northward a sharp but temporary dip in temperature took place. On Friday another and more serious depression advanced over Ireland from S.S.W., bringing with it southerly gales, a renewed rainfall, and generally broken weather, which lasted to the close of the week. In Dublin the mean height of the barometer was 29·914 inches, pressure ranging from 30·412 inches, at 9 a.m. of Sunday (wind, W.), to 29·178 inches, at 9 p.m. of Saturday (wind, S.). The corrected mean temperature was 45·7°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 44·4°. On Tuesday the screened thermometers rose to 53·0°; on Friday they fell to 37·4°. The rainfall was ·389 inch on five days, ·124 inch being measured on Friday, and ·240 inch on Saturday. The prevailing winds were W. and S. to S.S.E. A lunar halo was visible at 9 p.m. of Saturday.

Sunday, the 29th, was a fine mild day. The 30th was very mild, but changeable. On the 31st the heaviest rainfall of the month occurred at night, and hail fell in places in the afternoon.

In Dublin, the rainfall up to January 31, 1893, amounted to 2·239 inches on 19 days, compared with a twenty-five years' (1869–1889) average of 2·200 inches on 17·3 days.

At Knockdolian, Greystones, Co. Wicklow, 3·380 inches of rain fell on 18 days. The heaviest falls in 24 hours were ·510 inch on the 7th, and ·575 inch on the 28th.

The rainfall in January at Cloneevin, Killiney, Co. Dublin, amounted to 2·93 inches, on 19 days. The average rainfall for January at this station is 1·75 inches, on 15·5 days. Both rainfall and rainy days were, therefore, considerably in excess this year. The greatest rainfall in 24 hours was ·52 of an inch on the 28th.

PERISCOPE.

THE INTERNATIONAL CONGRESS OF CHARITIES, CORRECTION AND PHILANTHROPY, JUNE 12–18, 1893.

One of the series of International Congresses to be held in Chicago in 1893 is to be devoted to the subjects of Charities, Correction and Philanthropy, and the Third Section of this is to consider all matters relating to the Hospital Care of the Sick, The Training of Nurses, Dispensary Work, and First Aid to the Injured. The Committee of Organisation of the Congress has appointed Dr. John S. Billings, Surgeon U. S. Army, as Chairman of this Section, and Dr. Henry M. Hurd, Superintendent of the Johns Hopkins Hospital in Baltimore, as its Secretary, and has authorised and requested them to complete its organisation, to extend invitations and to prepare a programme for its work. Miss Isabel A. Hampton, Superintendent of the Training School for Nurses of the Johns Hopkins Hospital, has been appointed Chairman of that part of the work of the Section which relates to the training of nurses. This Section will hold five sectional meetings of about two hours each, commencing June 12th, 1893, and will also have charge of one of the general sessions of the Congress, viz., that held on the morning of June 14th. It is desired that this shall be a truly international gathering for conference on the subjects allotted to this Section, and all who are interested in Hospitals, in Training of Nurses, in Dispensaries, or in First Aid to the Injured, are cordially invited to be present, to contribute papers and to take part in the discussions. The papers and proceedings will probably be printed as a separate volume, and it is hoped that this will represent the best methods and the best work in each of these departments in all parts of the world. The following are suggested as subjects for special consideration in papers to be prepared :— 1st. Hospital Organisation—Governing Bodies—Relations of the Medical Staff and of Nurses' Training Schools. 2nd. Hospital Finances—Means of Support—Mode of Keeping Accounts—Cost. 3rd. Plan and construction of recently built General Hospitals, embodying the latest improvements. 4th. Relations of Hospitals to increase of Knowledge; to Medical Education, and to the Medical Profession; Hospital Records, Statistics, and Reports. 5th. Pay Patients in Hospitals. 6th. Isolating Wards and Hospitals for Contagious Diseases. 7th. Hospital Diets, Dietaries, Kitchens, &c. 8th. Hospital Amphitheatres and Operating Rooms. 9th. Hospital Laundries and Disinfecting Establishments. 10th. Army and Navy Hospitals—Emergency Hospitals in Time of Epidemics—Temporary and Movable Hospitals. 11th. Small and Special Hospitals,

Cottage Hospitals, School Hospitals, Private Hospitals, Sanatoriums, &c.; Convalescent Hospitals, and what to do with Incurables. 12th. History and present condition of Hospitals in the large cities. 13th. Training Schools for Nurses (*see special circular*). 14th. Dispensaries—Relations to the Public and to the Medical Profession; Dispensary Records. 15th. First Aid to the Injured; Associations for best means of popular instruction in and its place in General Education. Persons desiring to present papers, or to share in the discussions of this Section, are requested to communicate with the Secretary at once. The period of time allotted for the preparation of the programme is necessarily brief, and it is essential that all who are willing to assist in this work should act promptly. All communications should be addressed to Dr. Henry M. Hurd, The Johns Hopkins Hospital, Baltimore, Md.

DOUBLE OVARIOTOMY.

M. Polaillon reports to the L'Académie de Médecine a case of successful double ovariotomy in a woman three months pregnant. The patient went her full time, and was delivered of a healthy, well-nourished child.—*Bulletin de l'Académie de Médecine*, No. 30.

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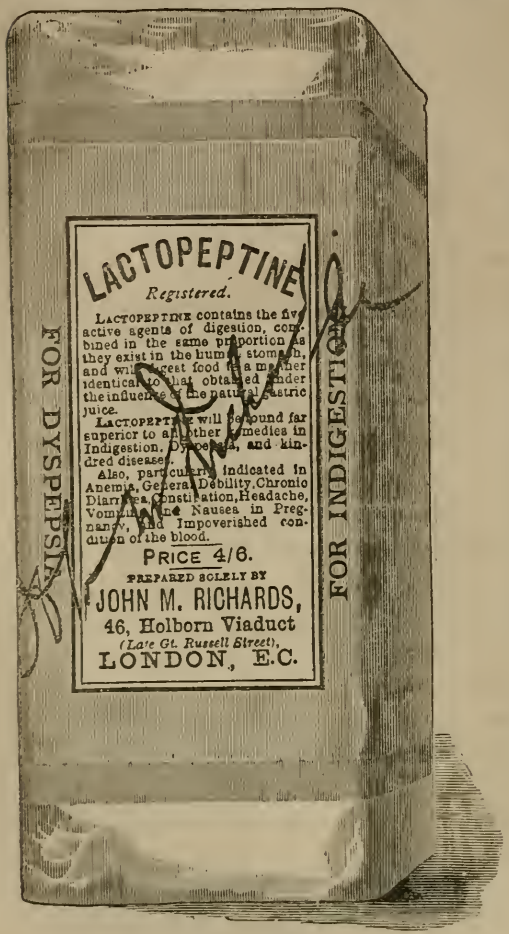
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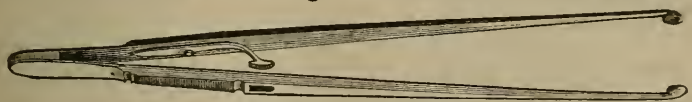

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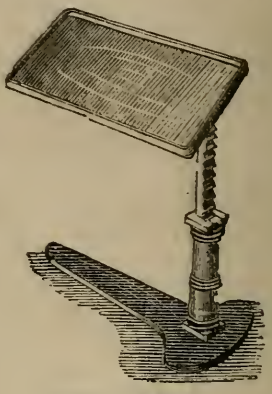

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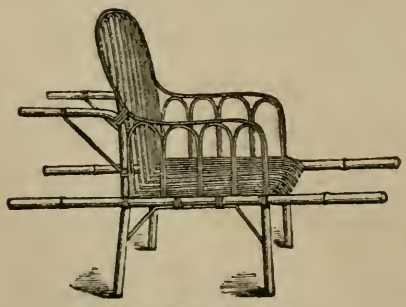

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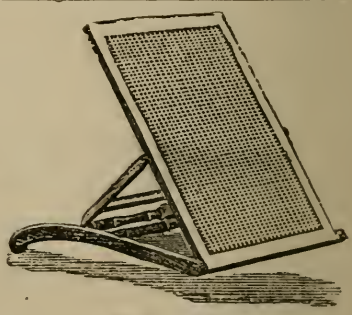

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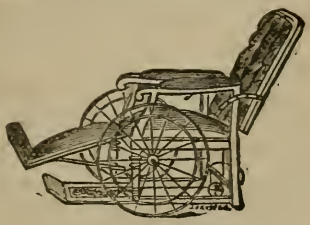

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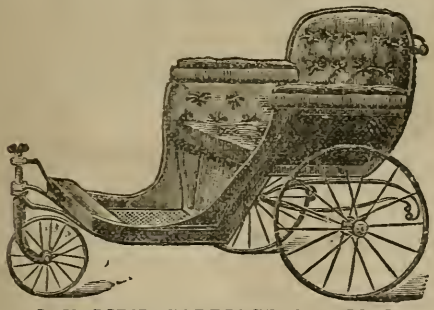

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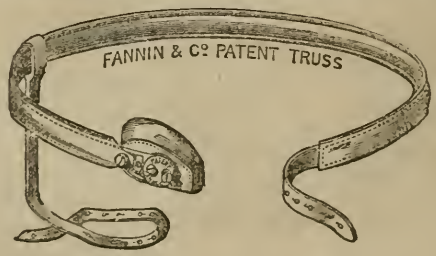

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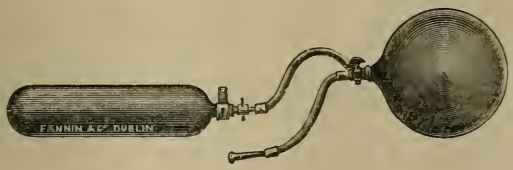

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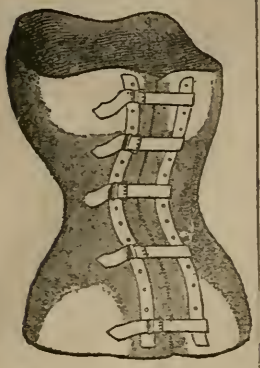


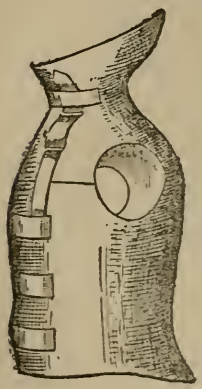
Instructions for Measurement, &c.

JACKET (*in cases of slight deformity*).

Circumference at axilla.
„ waist.
„ hips.
Length from axilla to great trochanter.

In severe angular cases circumference over apex of curve, position of same, and contour should be given; in lateral cases a description of the case.

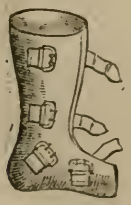
In all cases it should be stated if for male or female.



CERVICAL JACKET.

Same measurements required, and circumference at neck, and length from neck to axilla.

Any part of the Jacket can in the process of Manufacture be left Soft.



CLUB FOOT.

Circumference below knee.
„ ankle.
„ heel and instep.
Length from below knee to ground.
„ of foot.

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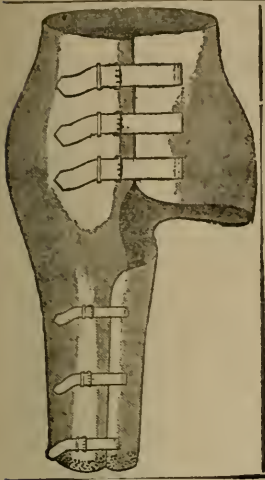

Instructions for Measurement, &c.

HIP SPLINT.

Circumference at waist.
„ hips.
„ thigh, top of
„ above knee.
Length from waist to groin.

State if for right or left side.

LEG SPLINT.

Circumference at top of thigh.
„ above knee.
„ at knee.
„ below knee.
„ calf.
„ ankle.
Length from groin to centre of knee.
„ centre of knee to ankle.

State if for right or left leg.

When the foot-part is required, also circumference of heel and instep, and length from centre of knee to ground.

If the limb is contracted the contour should be given.

Splints are also made in Poroplastic for fracture of Inferior Maxilla, Humerus Elbow-Joint, Forearm, Thigh, Knee-Joint, Leg, Shoulder-Joint, Hand, &c.

These Splints can be fitted perfectly to the Patient if softened either by hot water or in a Heater made for the purpose. When mounted with webbing, hot water will do; if with leather, a Heater should be used. The material becomes quite hard again in two or three minutes.

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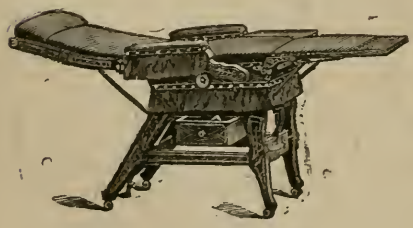
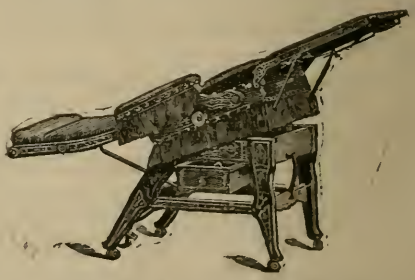
Can be also used as an Ordinary Office Chair.

Lateral or Sinus Position.
This position is important to gynæcologists, and in treatment of rectal diseases, with side table for instruments.



Horizontal Position



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